

Shop the online store
TheNationalLocksmith.com
• CLICK HERE •

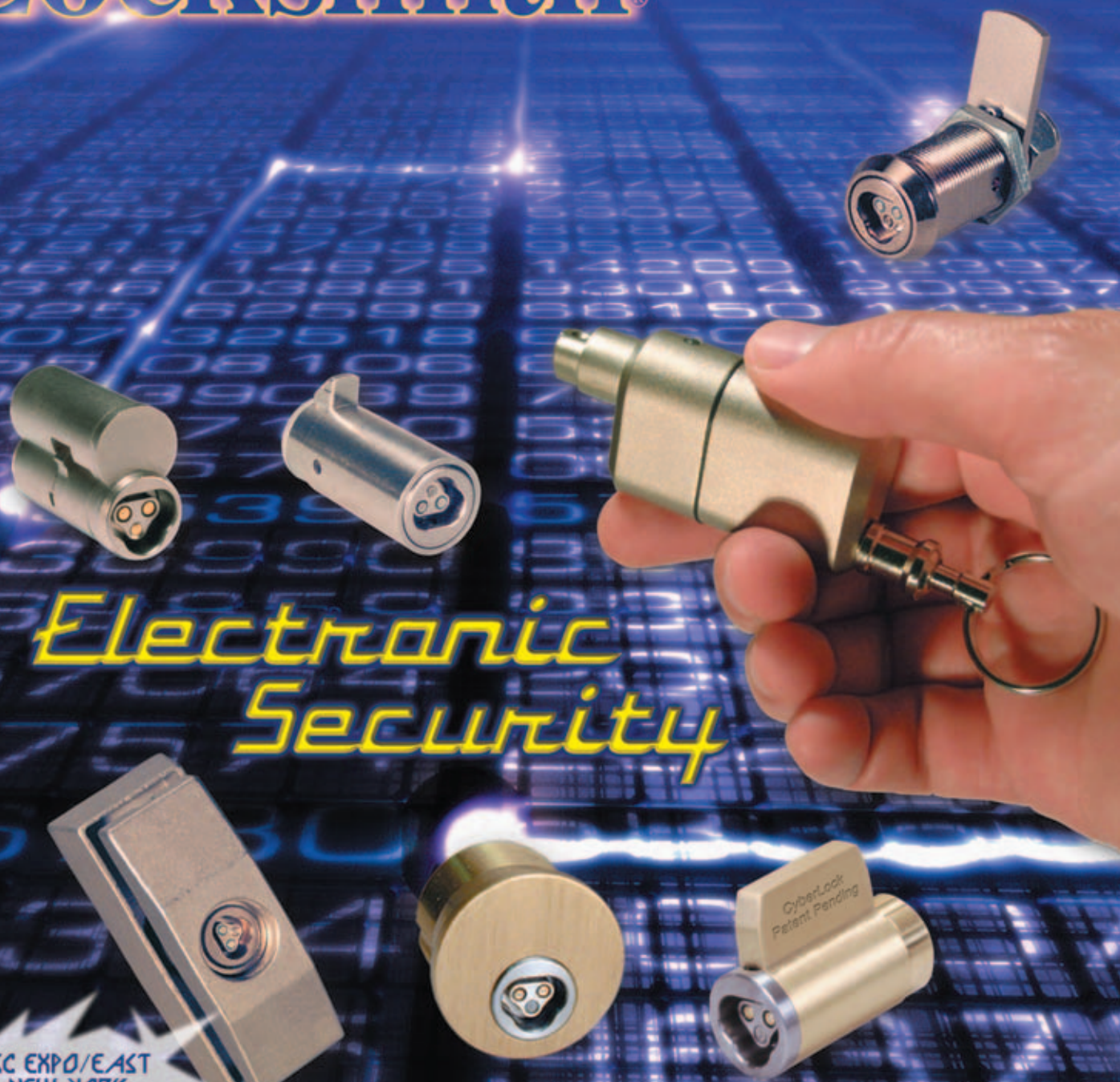
Shop the online store!
TheNationalLocksmith.com

August 2001
Volume 72
No. 8
\$6.00

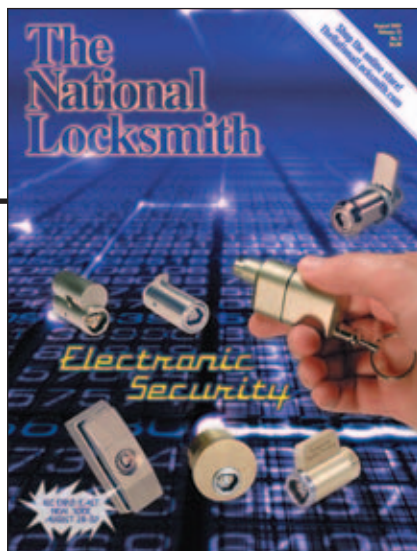
The National Locksmith®

*Electronic
Security*

ISC EXPO/EAST
NEW YORK
AUGUST 28-30



On The Cover...



A relative newcomer to the hardware market, Videx is making great strides with some unique product offerings in programmable security locks and keys.

Publisher Marc Goldberg

Editor Greg Mango

Art Director Jim Darow

Technical Editor Jake Jakubowski

Senior Writers

Sal Dulcamaro CML, Michael Hyde, Dale Libby CMS, Dave McOmie, Sara Probasco

Contributing Writers John Blankenship,

Tony Blass, Joe & Dee Bucha, Carl Cloud, Ron & Chris Curry, Richard Allen Dickey, Steve Gebbia, CML, Giles Kalvelage, Jim Langston, Tom Lynch, Tom Mazzone, Don Shiles, Robert Sieveking

Director of Sales & Marketing

Jeffrey Adair

Advertising Account Manager

Debbie Schertzing

Accounting Manager Sheila Campo

Production Assistants Kimberly van Mourik
Dave Krofel

Administrative Assistants

Cheryl J. Fiedler
LaVerne Schertzing

Shipping Manager Allan Galvez

National Publishing Co.

The National Locksmith® ISSN #0364-3719 is published monthly by the National Publishing Co., 1533 Burgundy Parkway, Streamwood, Illinois 60107-1861. Periodicals postage paid at Bartlett, Illinois 60107 and additional mailing offices USPS 040110. Subscriptions \$44.00 per year in the USA; \$55.00 per year in Canada; \$70.00 in all other countries. Single copies \$6.00 each. Postmaster, please send change of address to National Publishing Co., 1533 Burgundy Parkway, Streamwood, Illinois 60107-1861. ©2001 by the National Publishing Company. All rights reserved. Printed in the U.S.A.



Questions or problems with your subscription? (Or other inquiries?)

Call (630) 837-2044

Fax: (630) 837-1210

E-Mail: natlock@aol.com

See us on the World-Wide Web:
www.TheNationalLocksmith.com

CONTENTS

The National Locksmith August 2001 • Vol. 72, No. 8

FEATURES

**COVER
FEATURE! 18**

The CyberLock From Videx

An electronic cylinder designed to replace the Schlage "A", "B", "C" and "H" series cylinders.

26

**1977 Mercedes Benz
450SL, Part 2**

*Concluding the service
procedures on this car.*

34

ISC East Exhibitor List

40

ISC East Product Showcase

*New products and CLUB ISC
is launched.*

44

**Schlage's New
BC100 Series**

The evolution of a deadbolt.

54

ADA Exit Device Concerns

*How to overcome common
accessibility issues.*

63

Quick Entry Update

*Toyota and Lexus
Sport Utility Vehicles.*

66

The Drill Doctor®

Resharpen those dull drill bits.

74

Major Satisfaction

Side drilling the easy one.

84

**Unlocking The 2000
Chevrolet Trail Blazer**

Another new SUV.

104

Basic Electronics, Part 7

Electromagnetism.

116

**2001 Honda Gold Wing,
Part 2**

*Concluding with the
ignition/steering lock.*

CODES 123
Yamaha

A, B, C, D, E, & F 32010 - 79897.

135

TheNationalLocksmith.com

*Visit us online for technical forums,
chat, online store plus visit our
sponsors.*

DEPARTMENTS

5 COMMENTARY

6 MANGO'S MESSAGE

10 LETTERS

14 SECURITY CAFÉ

56 BEGINNER'S CORNER

60 THE LIGHTER SIDE

87 THE CASH STATION

90 TECHNTIPS

103 BUSINESS BRIEFS

136 TEST DRIVE

COMMENTARY



Nicey Is As Nicey Does!

Rosalind Redditt, 37, never did make it to the locksmith shop. This, despite the fact that she apparently flagged down eight different drivers on Chicago's Southwest side, in tears, crying that her keys were locked in her car.

All this transpired somewhere near Chicago Midway Airport, an area I know fairly well. There are a lot of retail establishments, and a great deal of traffic. Can you imagine leaving a poor locked out woman alone on the street, in tears, just trying to get to a locksmith?

It's almost too awful to contemplate, considering that Rosalind literally threw herself in front of moving cars, crying and waving her arms. Who could leave a woman like that alone in the street, locked out of her own car?

Chicago is a pretty friendly town and we're not the kind of people to leave a damsel in distress, especially one who desperately needs a locksmith. So, no, this is not a story of the cold city who left Rosalind, alone, locked out of her vehicle, and crying for a locksmith.

Rather, this is the story of the con artist who *did* get picked up by eight different sympathetic female Chicagoans. Each one, according to Chicago detectives, let Rosalind into their car in order to help her on the way to the locksmith in shining armor requested by the lady.

And each time Rosalind got into a car, she managed to rifle through the driver's purse while the driver was distracted with traffic. One poor soul lost \$160 from a cashed disability check found missing from her purse right after the incident. Almost all the good Samaritans were ripped off

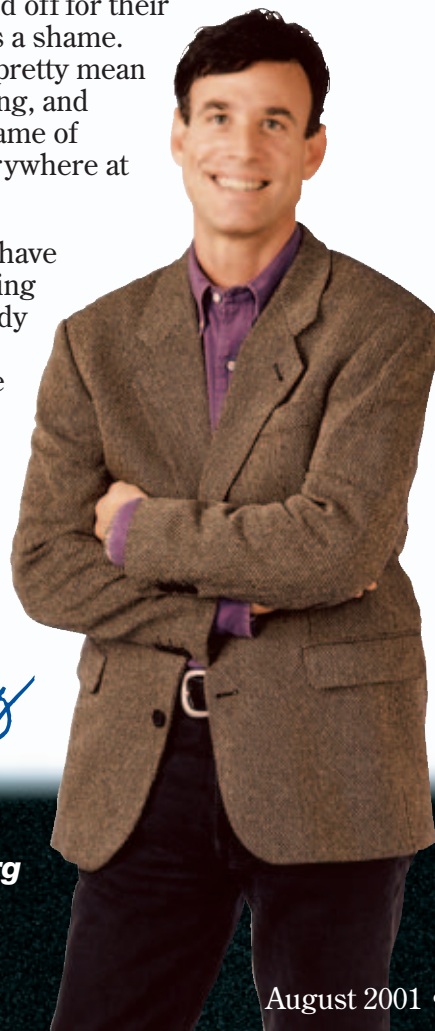
for various amounts of money ranging from a few dollars on up.

It will probably be a few years before Rosalind has the opportunity to even get near a locksmith. Which is *really* ironic because now is when she probably most needs one. You see, she was arrested for her scams, and apparently not for the first time. In fact she did a stint back in 1991 for armed robbery and then again for thefts in 1997 and 1999. I don't think any of us would be willing to help her now, so Rosalind will just have to deal with those pesky handcuffs all on her own.

Think of all those people who were nice enough to stop and help her out, and were then ripped off for their niceness. That's a shame. You have to be pretty mean to do such a thing, and besmirch the name of locksmiths everywhere at the same time.

Rosalind did have one distinguishing mark on her body that made her identifiable. She has a tattoo on her left arm.

It says
"Nicey."



Have questions? Want free technical help?
Free Locksmith Forums!
www.TheNationalLocksmith.com

Marc Goldberg
Publisher

Mango's Message

I'm sure most of you recognize the call letters "MBA" as a College degree accreditation for Master of Business Administration. While most of us would like to, few can claim that they have earned the esteemed credit of an MBA. Many can lay claim to earning a CPL, CRL, CML or CMS designation, but given the choice, I'll take an MBA designation any day. Why? Because MBA, like Ph.D, is universally recognized as a great accomplishment of higher learning, which carries a respectable amount of clout. Outside this trade, few know what a CPL, CRL, CML or CMS represents.

For those who have always dreamed of achieving MBA status, now is your chance. Well, sort of!

Medeco High Security Locks is offering all locksmiths and other security professionals interested, a tool for cultivating a stronger, more profitable business... and you do not need to currently own a retail store or be a Medeco dealer to take advantage of the offering. Ann McCrady, Medeco's Business Development Manager, has created and introduced the **Medeco Business Advantage (MBA)** program, consisting of 10 self-study books that you can complete in the comfort of your own home, or in classroom seminars. Think of it as a **General Educational Development (GED)** equivalency for an MBA. In fact, in some ways it's better, because unlike achieving an MBA, which requires countless hours of study in topics unrelated to your needs, the Medeco Business Advantage program was specifically developed for security professionals. It gets to the heart of the matter by addressing your individual needs and unique obstacles, bypassing unrelated and unnecessary electives.

If you own a small business, to be successful you know the importance of developing a broad range of skills, including customer service, financial management, marketing, sales, and human resources to name a few. Without prior education on those topics, where do you turn for the information and training? For most it's trial and error, consisting of a painful learning experience, which often leads to disaster. The secret to avoiding, and overcoming, any obstacle or potentially disastrous situation is through education.

One of the keys to growing a business, and one of the toughest things for most locksmiths to do (because of their mechanical inclination) is learning how to work *on* their business, rather than *in* their business. I know of few successful business owners of any magnitude that work in their business. A company president's job is to develop and grow a business, not install another deadbolt. That's where

Earn your MBA!

the education of an MBA comes into play and why the Medeco Business Advantage was developed.

The MBA books are available individually for \$25 each or as a 10-volume set for \$199, and include the following topics:

Strategic Business Planning

The introductory seminar to the Medeco Business Advantage (MBA) program assists in creating a vision for change.

Topics discussed in this booklet include:

- Challenges & Opportunities
- Knowing Your Business
- Strategic Business
- Strategic Business Tools
- Employee Commitment
- Your Strategic Business Plan



Business Fundamentals: Systems & Processes

Covering the important infrastructure items to build a strong foundation for a healthy business.

Topics discussed in this booklet include:

- Building the Infrastructure to Support Growth
- Goal Setting and Time management
- Organizing Your Business
- Business Processes
- Communication Skills

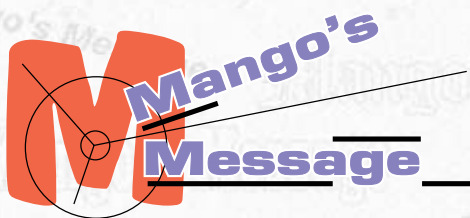


Continued on
page 8.

Greg Mango

Greg Mango
Editor





Continued from page 6



Managing for Change

Be able to develop strategies and address the risks facing your business in the long run.

Topics discussed in this booklet include:

- People Management • 10 Tips for Becoming a Leader of Change

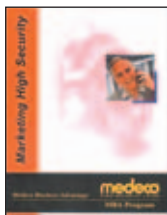


Financial Management

Financial responsibility is not the task to be delegated. It is the primary responsibility of the owner or manager.

Topics discussed in this booklet include:

- How Healthy is My Business? • The Business Plan • Using MPV's to Set Financial Goals • Visibility on Performance • Fiscal Management • Invoice and Service Order • Compensation Planning



Marketing High Security

Understand why people purchase products and how to position your company and products to meet their needs.

Topics discussed in this booklet include:

- Why People Buy Products • Your Market Position • Techniques for Reaching Your Target Market • Building on Your Brand • Effective Presentations • Marketing, Planning and Calendar • Event Driven Marketing • Evaluating Marketing Strategy



Coordinating Your Service Efforts: Leveraging Dispatching and Service

Much of what happens in the business begins by answering the phone. Coordinators have a greater chance to lead the charge than anyone else in the company.

Topics discussed in this booklet include:

- The Big Picture: Why the Business Has to Change • Maximizing Your Service Coordinator Role • Leveraging the Dispatching Process • Solving the True Problem - 2Qs • Security Options - The Triangle of Security • Guiding Principles for Security Professionals



Optimizing Human Resources

Providing tips and techniques for improving your management skills and capitalizing on the strengths and talents of your work force.

Topics discussed in this booklet include:

- Manager's Make Mistakes! • Team Building • Delegating • Coaching • Staff Meetings • Visibility on Performance • Task Allocation • Employee Manual - Position Contracts • Employee Development and Training

Managing Employee Turnover

Hiring and retaining good employees continues to be one of the biggest challenges facing any business owner.

Topics discussed in this booklet include:

- Interviewing, Hiring & Unhiring • Compensation • Performance Management



Making the Big Sale: End-User Sales Process

Adding a sales person can be a big boost to a security company's revenue - or a big drain.

Topics discussed in this booklet include:

- Everybody Sells • Identifying Your Target Market • Bringing a Sales Person On-Board • The Medeco End User Sales Process • Tools for Sales Success • Opportunities for Leveraging Sales



Providing Total Customer Care: Skills for Technicians

Learn how to be the best at what you are good at - improving the security of your customers.

Topics discussed in this booklet include:

- Understanding the Strategic Direction • Tools for Technicians • Providing Total Customer Care • The Perfect Service Call - Putting It All Together



As a business owner or future business owner, it would serve you well to invest in this 10-volume set of strategic business planning. Everyone can benefit from this information in some way, and Medeco always does a top-notch job of the material it presents. Best of all, the largest booklet in the series is only 48 pages long, meaning your eyes won't roll to the back of your head as you go brain dead trying to absorb this material, and you won't have to dedicate six years of your life to accomplish this MBA.

Seminars are conducted at Medeco's headquarters in Salem, VA and other locations around North America and Canada. Course prices vary, but generally they are \$95 per person for a one-day class. This includes lunch, the matching course book (a \$25 value) and if the course takes place in Salem, a scheduled tour of the Medeco factory.

The minimum number of registered attendees required to host a training class is 12. Medeco will travel throughout the US and Canada to conduct these training seminars if that requirement is met. If you are interested in scheduling a training seminar for your association, business or trade show, contact:

Ann McCrady
Phone: 800-675-7558
Fax: (859) 689-5993
E-mail: Ayoungermc@aol.com 

AUGUST 2001

Letters

The National Locksmith is interested in your view. We do reserve the right to edit for clarity and length.

Tough, But Worth It

My letter is in response to the Mango's Message editorial (Hidden Camera Investigation "The Locksmith Test") in the April issue, which chronicled a news team capturing locksmiths opening houses without sufficient ID. We read how careless this locksmith was and how bad it looked on TV.

Then in the May issue, Sara Probasco wrote her Lighter Side article "A Matter of Recognition." She told how Don finally straightened out a key by code problem by supplying a ring of keys. I know they were blanks, but he had previously supplied a key cut by code that was not the correct keyway. This key fit a car somewhere!

I know Sara and Don from my years in Texas locksmithing, and I am not implying they are anything but honest and competent people. I know this for a fact. But, isn't this scenario just about the same sort of

thing as the poor sucker in your previous hidden camera article?

I read in issue after issue about the difficulty people have acquiring a locksmith license in Illinois. In Illinois, you must record ID's, addresses, vehicle VIN numbers, etc., and keep these records for two years.

I think Illinois licensing is right on target and am proud of being licensed in Illinois. We have accomplished a lot by requiring certain standards be adhered to.

To those of whom the test is to difficult, it is time to study and perhaps get a little more experience. I know this is difficult, but anything worth having is worth earning.

Steve Phillips, CPL
E-mail

Switches & Poles

I wish to make a few comments on the article "Basic Electronics Part 5" by William C. Deutsch in the June issue of *The National Locksmith*. Under the heading "The Switch" I don't agree with the following two statements: "The pole is the part of the switch that moves and the throw refers to the number of contacts that the switch can make or break." The "Illustrated Dictionary of Electronics 2nd Edition" by Rufus P. Turner defines a pole exactly the same, but I still do not agree.

In "Electricity and Electronics" by Gerrish/Dugger/Roberts; the term Single Pole (SP) means that the switch provides one path for the electron flow, and it can be turned off or on. The term single throw (ST) means that the switch controls only



one circuit. A SPDT switch has one common connection point and can complete circuit paths to two different circuits.

In the "ARRL Handbook 1999" the following states that: "Switches are normally designated by the number of poles (circuits controlled) and positions (circuit path choices)."

Illustrations C&D in the article shows a schematic for a SPDT switch, not a DPDT switch. I also do not feel that the designation NC and NO is correct. Switches are usually OFF or ON. The terminology NC and NO would be correct if the switch was spring loaded and would automatically return to the NO or NC position.

Under "The Relay," illustrations E&F show a schematic for a SPDT switch not a DPDT switch. The relay coil is considered de-energized and thus the designation NO or NC is correct for a relay.

I've been in electronics most of my life and this is the way I understand it.

The National Locksmith
1533 Burgundy Parkway
Streamwood, IL 60107
Attn: Editor

Thanks for letting me put in my two cents worth.

Sincerely,
Kenneth Novey, CRL
Iowa

Writers Note: Thanks Kenneth for your comments. One thing that anyone who reads or writes about electronics has to deal with is the fact that different schematics and symbols are often used to describe the same thing. As a matter of fact, you can look at two identical circuit diagrams in two different textbooks, and each one may show the current flowing in two different directions! And both could be right! There is a reason for it, but I won't go into it now. When I have to make a judgment call about which definition or symbol to use, I follow these guidelines:

1. Will it click? I am trying to use language that will connect with folks who are completely new to electronics. This will irk the purists at times, but I hope it is helpful to the guy who has to jump in his truck tomorrow morning and service a magnetic lock installation for the first time. Hence, I call a pole "the part that moves," as opposed to "a path for the flow of electrons." I think this makes more sense to the new tech.

2. Is it common? Some definitions and symbols are more common to particular industries. In EAC work, you see the NO and NC conventions, as opposed to ON and OFF. When a technician goes to wire a keyswitch, for example, she will see terminals marked NO, NC, and C, not ON and OFF. So while it may be true that switches are usually classified as ON or OFF, the limited number of switches we use in EAC work are not. You could also argue that a spring-loaded switch (push button) and a switch should have different designations, but I don't think the argument will help anyone on the job.

Now, as far as illustrations C, D, E and F being wrong, all I can say is DUH. Yes, these are SPDT not DPDT. I changed the illustrations at the last minute for some reason, but did not update the copy. Sorry. It would encourage me to know that more than one astute reader noticed this obvious error. It means that someone is paying attention.

Thanks,
Bill Deutsch

Much Appreciated

Thanks for such a great magazine and the forums for locksmiths on your web page. I am new to the net and don't stay long on it yet, but I will be checking your site more often, and longer, as time allows.

Thanks again.
Eugene Hansen
E-mail

The Passing of Kenneth J. Stemig

Not all great individuals are well known nation wide. To those that have known those great men; many more well known people pale in comparison.

Such a man was Kenneth J. Stemig, owner of E. L. Reinhardt, Company, Inc., a PLS locksmith supplier in the upper Midwest. Ken made a small wholesale locksmith supply business into a well respected and appreciated regional distribution company while keeping the "corner store" attitude.

It has been said that when people are on their deathbed, nobody ever says "I wish I had spent more time at the office," with the understanding that they should have spent more time with their family. Ken did both. E. L. Reinhardt Co is a family business, so Ken spent time with his business and at the same time with his family. We should all be so fortunate.

I have known Ken for more than 25-years, and I know I would not be where I am today in locksmithing if it were not for Kenneth J Stemig, and the personal and friendly way he treated me (and thousands of other beginner locksmiths).

Ken, born in 1935, passed away May 31st. Ken is missed already. My sincere condolences to the Stemig family.

May your time of grieving be gentle. Goodbye Ken.

Respectfully,
John Dorsey, CML

It's a Damn Shame

25 years ago automobile work was a major part of my business. Now (other than cutting keys) auto work involves less than 10% of my business.

Below are 10 reasons I do very little auto work anymore:

1. Airbags (damage, lawsuits, etc.)
2. Transponders (cost, inventory)
3. Dealers (they get key numbers and cut their own keys)
4. Special equipment needed (tools, computers, etc.)
5. Various cars (dealer only can program)
6. New technology to replace keys with (push buttons, fingerprint, voice, etc.)
7. Cost just to keep inventory of (locks, keys)
8. Customers told to go to the dealer only (to have a key made)
9. Tow truck drivers first to be called on car openings (if police department can't do it)
10. Lost interest due to the above.

Washington Locksmith
E-mail

Shake, Rattle & Roll

I was giving another locksmith a hard time because he has cheap locks on his house. He rarely uses his deadbolt, so the only thing protecting his home and it's contents most of the time is an inexpensive knob entry lock. I bet him that I could open his lock without any tools and without doing any damage.

I was in the house in about 15-minutes. Here is how I did it: I jiggled the knob, thinking that the vibrations might cause the locking button on the inside knob to rotate. What happened instead, was the screws which hold the lockset to the door were getting loose. At the time I started jiggling the knob there was some play between the knob and the rose plate, but the rose plate was tight against the door.

After about five minutes of jiggling I noticed the rose plate was moving, so I pulled gently on the knob while I continued to jiggle it. After about 10 more minutes, the screws had backed all the way out and the lock was off the door.

The only drawback is a tiny bit of paint was scraped off around the rose plates. This very minor problem will be solved with larger rose plates when he upgrades to better locks. Keep this method in mind in case you find someone locked out and you don't have any tools with you.

Security Café

**DROP IN FOR
TOOLS, TECHNOLOGY
& EQUIPMENT**

BC100 SchlageBolt

Introduced as the first in Schlage's new family of commercial grade deadbolts, the newly upgraded BC100 will accommodate three cylinder format options and two keyways. It also incorporates a host of increased strength and durability features, yet is priced competitively with other Grade 2 deadbolts.



The new SchlageBolt design will accommodate Small Format Interchangeable Core (SFIC), Schlage Full-size Interchangeable Core, and Full size Conventional Cylinder formats. In addition, the BC100 is available in lockless cylinders in all three formats. Both Schlage Classic and Everest patented keyways are available, to provide the desired level of security.

New features include a heavy-duty 1" metal bolt; a hardened steel roller pin to help prevent kick-in attacks and sawing of the bolt; a steel face plate that increases bolt strength to four times greater than competitive products; a steel door strike that increases security to three times greater than competitive deadbolts; and a cylinder housing that offers ten times the drill resistance of similar products.

Ingersoll-Rand Launches E-Bolt

Ingersoll-Rand's Schlage residential business unit has



introduced the E-bolt key management system for multifamily dwellings, high-end single family properties, and property management applications. The system uses programmable intelligent deadbolts in combination with electronic keys to reduce the time and eliminate costs associated with re-keying and/or replacing deadbolts.

The E-Bolt key management system is based on easy to use database technology, which enables the user to manage building access privileges with the 'click' of a mouse. The software, which runs on any Windows 95 or higher operating system, offers various database options, allowing users to assign keys to new tenants or employees, add new keys to the system or remove lost and stolen keys altogether. Users can also assign due dates for keys. The keys cannot be duplicated thanks in part to the system's unique electronic signature capability, which has more than 3 billion possible combinations.

T-Zone Sets New Standards

The unique Sargent T-Zone construction features true interlocking between the lock body and the latch bolt. All four-lever designs are solid cast zinc. The result is a lock that is able to withstand extreme abuse, while providing maximum convenience and requiring minimum door prep. T-Zone exceeds 2,400-inch lbs. torque resistance,



Jobmaster® and Storagemaster's® Innovative New Design

Knaack Manufacturing Company unveiled their innovative new design for their entire family of JOBMASTER® and STORAGEMASTER® chests. The ultimate in job site protection for your tools and equipment, Knaack Manufacturing Company introduced the next generation in their patented lock system. More secure and convenient than ever, the all-new WATCHMAN® IV Lock System uses a single padlock to secure a two-point deadbolt latch! A reinforcing rib adds structural integrity to the entire box as well as a distinctive design.

After lengthy field research, additional features were added to the new design. Ergo-nomically designed handles are now recessed to avoid damage and still provide a positive grip, even with a gloved hand. The cover on all JOBMASTER® chests is now 70% larger, with a wider reinforcing channel to increase the overall strength of the lid and resist break-ins. Cover tangs are made of 7 gauge formed steel and are welded to the reinforcing channel to keep the tangs aligned indefinitely with the deadbolt latch.



cycles to three times ANSI/BHMA 156.2 Grade-1 requirements, eliminates lever sag after 2.5 million cycles and has two of the smallest Grade-1 rose designs available. Only 45 degrees of lever rotation is required to retract the latch bolt and many functions are easily field changeable.

The T-Zone can be retrofitted within the 2-1/8" hole of a 161-door prep. It will also retrofit the mini mortise door preps of Sargent 7600 Integra locksets with the purchase of a 6010 kit. It retrofits thru bolted locks with the large "L" rose design (standard) or escutchen plate (additional item) to cover the pre-existing

holes on the door face. On top of all this, T-Zone comes with yet another industry first, a seven-year warranty.

Monarch Universal Coin Bathroom Lock

The Universal Coin Bathroom Lock has received its first major change in over sixty years! The new housing is nearly twice as thick as the original and a denser alloy has been chosen. Collection of coins has been eased considerably as the unit features a removable, stainless steel coin box that has been enlarged substantially. The Universal Coin Bathroom Lock has found new uses in an era where security and access control

SECURITY CAFÉ

CIRCLE NUMBER
207



has become a serious concern for the Laundromat operator. In an effort to produce a more environmentally friendly product, the housing is no longer chrome plated, but features a tough powder coated finish.

Ideal for use in Laundromats, theaters, restaurants, bus terminals, service stations and grocery stores, as well in other places where facilities must be available to the public, but still be under control. Installation lies well with the capabilities of the average handyman's skills. Units are made to accept a quarter, a token, or either one. Many foreign coins may also be accommodated.

Marks Intruder Classroom Cylindrical Leverset

Marks USA have incorporated all of the

CIRCLE NUMBER
208



DORMA's 9000 Series Exit Device

To continue building on Dorma's legacy of strength and reliability, Dorma Architectural Hardware offers its 9000 Series exit device to provide durability and added functionality to commercial and institutional doors.

The heavy-duty cast chassis of the 9000 series provides superior durability for high-impact applications such as schools, universities and other commercial

standard features of the "Survivor Series" (Clutch System, Super Strength Retractor, Long Life Lever Support Springs and a Life Test of over 1 Million Cycles) with their new Life Safety Classroom Intruder Lockset by Marks USA, is designed to be locked or unlocked from the exterior, always open on the interior, but will allow in an emergency life safety situation, for the teacher to be able to secure the classroom, without stepping into the hallway to lock the outside handle.



How To Re-Key Cylinders

This software simplifies the process of re-keying various types of cylinders.

CLICK HERE TO LEARN MORE



#HT - RKC1

and institutional facilities. It features a smooth, reduced projection that minimizes catch hazards. The device's partial length touchbar permits field installation of options such as cylinder digging and exit alarms.

A variety of options are available on 9000 series exit device line including surface, concealed and less-bottom-rod configurations. Electronic options include electric latchbolt retraction, monitor switched and several exit alarms.

Pro-Lok Pump Wedge

This new car-opening tool is simply indispensable when opening the newer cars on the road today. Car manufacturers have been making the weather-stripping very tight on the new models, which often makes it difficult to get a wedge started. This inflatable wedge starts out flat when inserted in the



door and allows you to pump gradually to the proper inflations to allow you to safely insert your car-opening tool. Since the pump wedge is made of a soft non-marring cloth covered vinyl, no damage will be done to the weather-stripping of the window. The corners are rounded, which allows easy entry behind the weather-stripping. Then done, simply release the valve and the wedge will deflate.

Locksmith Dispatcher 2000



Controlled Service dispatching software specifically for the locksmith!

CLICK HERE TO LEARN MORE



Jensen Foldout Pocket Tool Sets

These compact tools fit your hand comfortably and feature full-size, open-end wrenches. The individual components are constructed of high-carbon steel, tempered to a specific Rockwell hardness, and are nickel-plated. The handle is constructed of 0.070 cold-rolled steel, with a super-tough industrial quality black



powder-coat finish. The set includes 1/4", 1/8" slotted and #1 Phillips screwdrivers and a 3/16" scratch awl. The fractional version includes 3/8", 7/16", 1/2", 9/16" and 5/8" wrenches, while the metric version offers 10mm, 12mm, 13mm, 14mm, and 15mm wrenches.

Master Lock Comprehensive Interchangeable Core System

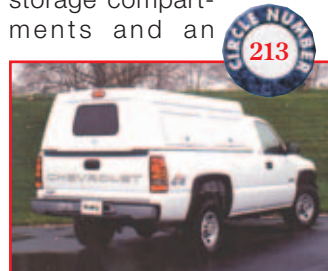
Facilities now using



interchangeable core products for access security, will find Master Lock IC a perfect fit in both compatibility and affordability. A Master Lock core fits any standard Best®, Falcon® and Arrow® interchangeable core door lock. Master Lock's full line of interchangeable core padlocks and mortise and rim cylinders also accept present cores from these same brands. Master Lock padlocks can be ordered already keyed to match current IC Systems. Sixteen distinct keyway designs match existing profiles from Best®, Falcon®, Arrow® and others. The new core options give facility managers and maintenance personnel an instant solution for common security issues. Any authorized person using a single control key can remove an interchangeable core and replace it with a spare or recombined one, resulting in a new level of convenience and key control.

Reading Aerodynamic Truck Cap

Reading's newest product introduction in the Aero-tech® Series is the Aerotech® Cap. The Aerotech® Cap is a rugged, spacious cap featuring aerodynamic styling to complement today's pickup trucks. Featuring exterior storage compartments and an



SECURITY CAFÉ

enclosed cargo area, Reading's Aerotech® Cap will help you organize and protect your tools and materials so you can get the job done faster and more efficiently.

Standard features include construction of A60, two-sided zinc coated galvannealed steel, providing durability and the first layer of rust protection. LectorLife® immersion priming provides the second layer of rust protection. In this advanced priming process, the caps are dipped into a huge vat of electrically charged primer, fusing the paint to the steel. The result is complete coverage in every nook and cranny for unsurpassed rust and corrosion protection.

Darex XPS-16 CNC Drill Sharpener

Darex Corporation announced the new CNC XPS-16 automatic drill

sharpener at the Westec 2001 show. The XPS-16 sharpens twist drills from 1/8 to 5/8 (3mm- 16mm) inch and up to 8-3/4 inches long at angles from 118 to 140 degrees. Capable of creating conical, four facets, split point and radius split point drills at the touch of a button. The XPS-16 automatically sharpens the most widely used drills.

The sharpening process is completely automatic. Simply insert the drill into the machine, and use the touch screen to select the point style, and then push the start button. The XPS-16 automatically sizes and aligns the drill, sharpens and splits the



point and has automatic honing capabilities for carbide drills.

The XPS-16 comes equipped with internal calibration and diagnostics software. A vacuum system keeps your work area safe, clean and free of grit. The sharpener is equipped with low maintenance CBN or diamond-electroplated wheel that never need dressing or truing.

Angiolaz Self-Contained Battery Powered Fiberscope

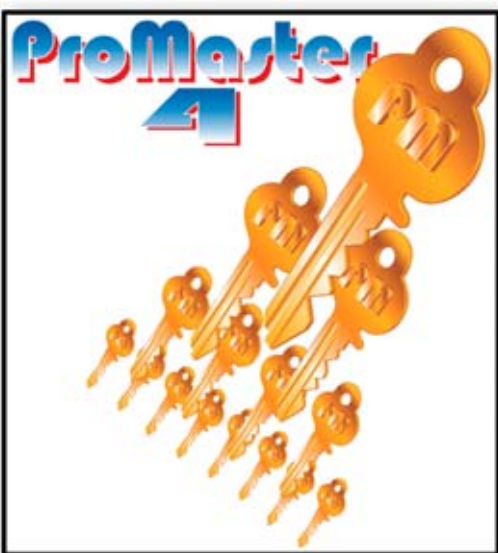
The Inspecta-VU PV-1, is a hand-held, high-resolution flexible borescopic system for visual inspections. The image is bright and clear, and the flexible scope lets you see areas that otherwise would be out of sight. The PV-1 is small enough to fit in your toolbox, but it's completely self-contained. There is nothing to assemble, lose or

break off. The illuminator and a rechargeable battery are built into the handle for over an hour's use on a single charge. A battery charger is included. A U.S. compatible charger is furnished unless specified otherwise with the order.



The PV-1's excellent image quality results from a high-resolution fiber optic image bundle and the kind of magnification system found in an optical microscope. Matched to sophisticated Inspecta-VU technology, they give the PV-1 image quality, comparable to a conventional multi-component borescope.

TNL



ProMaster 4

ProMaster 4 is without a doubt, the most comprehensive and easy to use master-key system management tool available anywhere in the world.

CLICK HERE TO LEARN MORE



Videx is kind of like the new kid on the block. Although Videx has been in business for over 15-years, they just recently entered the locksmith field with the introduction of their TouchAccess(in 1999. (See *The National Locksmith*, August 2000.) In October 2000 they started shipping their newest product, the CyberLock™. You probably wonder what could be so special about just another lock cylinder on the market. Well follow along and I will show you something that will truly convince you that you are living in the next millennium.

The CyberLock system is shipped as a starter kit. (See *photograph 1.*) There are eight different starter kits to choose from. The selection includes a 6-pin cylinder kit, a cam lock kit, four different mortise cylinder kits and two rim cylinder kits. Each kit is complete and ready to use with one cylinder, two keys, and all of the other components that make the system work.

There are five basic components that make up the entire system.

- First is the CyberLock cylinder. The lock is an electronic cylinder that is designed to replace the Schlage "A", "B", "C", "D" "G" and "H" series as well as other existing lock cylinders of the same dimensions.
- Second is the CyberKey™. The key contains electronic information that must match the cylinders information to gain access.
- Third is the CyberKey Station that acts as an interface between the key and your computer.
- Fourth is the CyberAudit™ software. The software is used to program the keys, view audit information, allow or deny access to certain users etc.
- Last but not least is CyberCom™. Lets look at all of these parts in detail.

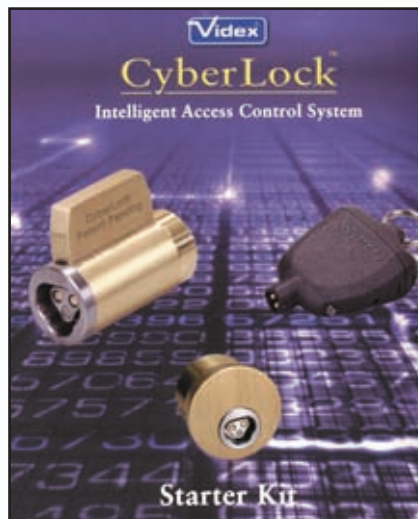
The most exciting part of the system is the lock cylinder. This thing will work from minus 40 degrees to 160 degrees Fahrenheit. That only leaves out Fairbanks Alaska and the South Pole. When I was told the product was on its way, I tried to guess how the lock cylinder worked. As soon as it showed up, I had to take it apart to see if I was right.

Photograph 2, shows a view of the front and side of the cylinder lock. *Photograph 3*, shows the mortise cylinder while *photograph 4*, shows the cam lock. Instead of a keyway in the front of the cylinder, there is this thing that looks like a space ship docking station right out of Star Wars. In the

the CyberLock from Videx

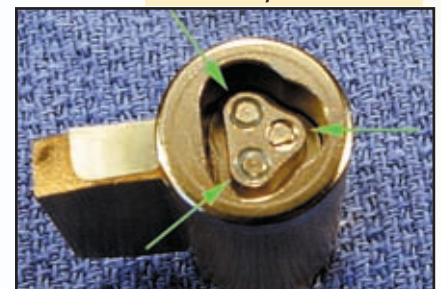


by Richard Allen Dickey



1. The CyberLock starter kit. Everything needed to start your system.

2. The CyberLock cylinder that is comparable to a typical Schlage 6 pin cylinder.



3. The CyberLock mortise cylinder.



4. The CyberLock cam lock.



5. The 6-pin cylinder disassembled. The arrow is pointing to the locking pin.

Continued from page 18

center of all of this, the arrows are pointing to three little contact points that will match the key, which I will show later.

On the rear of the cylinder is your typical screw on brass cap. The cap holds the cylinder together and keeps the tailpiece in place. *Photograph 5*, shows the cylinder's main parts after disassembly. The plug and housing look very similar to what you would expect. The arrow shows the locking pin. The locking pin keeps the plug from rotating unless a valid key is used. The fun stuff is inside the plug.

In *photograph 6*, you can see that there is a small hole close to the end of the plug. Down inside of the hole there is a pin. The pin in the bottom of the hole prevents the locking pin from falling. This is the condition of the pin before the key makes contact with the plug.

Photograph 7, shows the key making contact with the plug. There is a red LED on the key that lights when it is making contact. The view shows that the pin is no longer there. In this condition the locking pin would fall and the plug would turn in the cylinder.

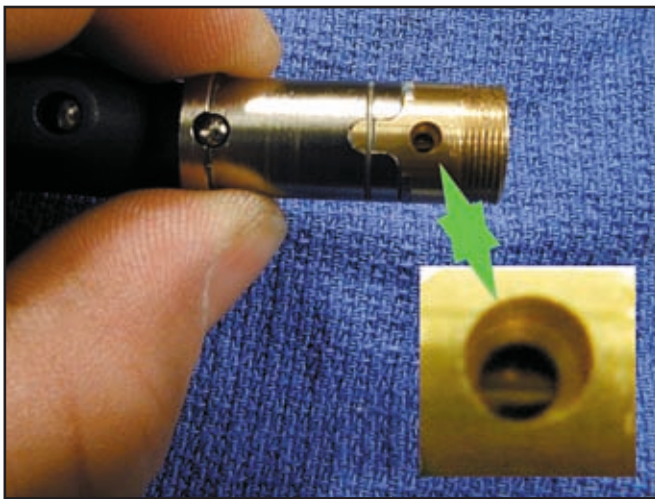
I wanted to see a little more so I decided to take the plug apart. There is a very small clip that holds the front and rear of the plug together. *Photograph 8*, shows the small clip as well as the groove that the clip fits in. As you can see, the front and rear of the plug have been separated about 50 thousandths.

Photograph 9, shows the two pieces of the plug pulled apart. An arrow points to the little pin that blocks the locking pin. To prevent access by rapping the face of the cylinder, there is a small brass extension of the pin. It is in the very tip of the holder where the arrow is pointing.

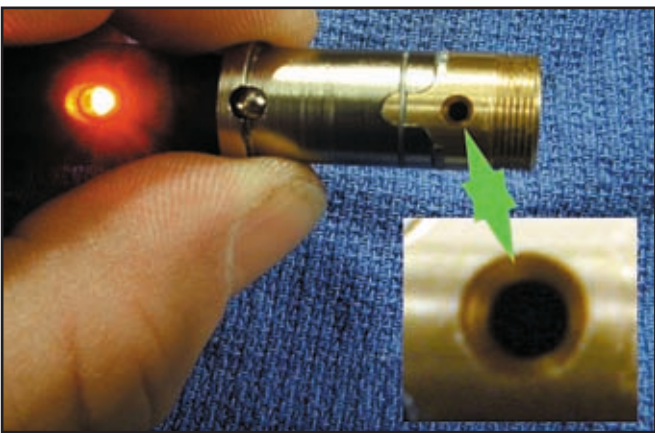
Normally when the pin retracts, the small brass part does not move. It stays in the tip of the holder. If the cylinder is rapped, the small brass piece will slide to block the locking pin. If the cylinder has been tampered with in this way, a valid key will need to be inserted and removed several times to tap the little brass part back to where it is supposed to be. They thought of everything, didn't they?

The mortise cylinder is basically the same as the pin cylinder replacement. However, there are a few differences in the cam lock, and I don't just mean on the outside. There is a little difference on the inside too. But let's look at the outside first.

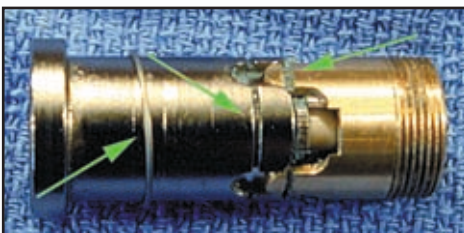
The cam lock has a lever like any other cam lock but there is an extra part or two. *Photograph 10*, shows the cam lever and the drive plate that is attached to the end of the plug. The drive plate turns with the plug and strikes the pin that sticks through the lever. *Photograph 11*, shows the same pin as it sticks through the lever and



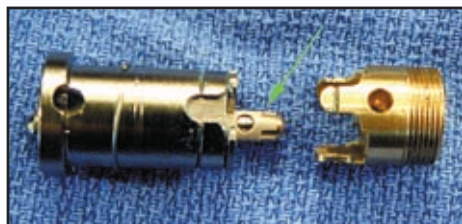
6. A CyberLock plug showing the hole for the locking pin. In the bottom of the hole you can see the small pin that blocks the locking pin.



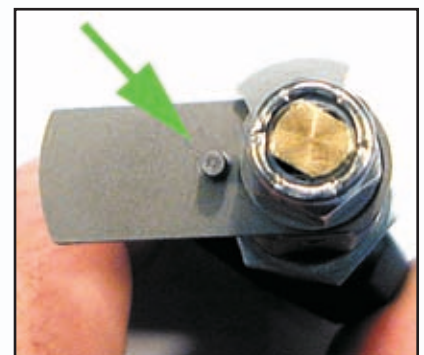
7. A view of the plug with the key inserted. The red LED lights when the key touches the lock plug. As you can see in the exploded view, the small pin has moved out of the way. In this condition the lock would open.



8. The front and rear parts of the plug are separated about 50' thousandths. The arrows point to a retaining ring and the groove the ring fits in.

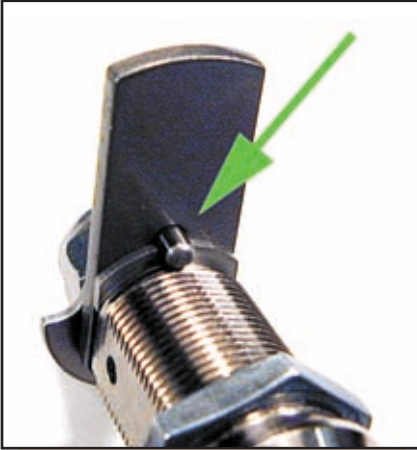


9. With the two pieces of the plug separated, you can see the small pin that blocks the locking pin.



10. The lever and drive plate.

Continued from page 20



11. The lever and stop plate.

into the stop plate. All of the associated parts can be seen in *photograph 12*. One of the nice features includes a nylon locking nut. As you can see, this cam lock is very well made.

The plug is a lot like the one we looked at in *photograph 2*. (See *photograph 13*.) The locking pin is visible on the top of the plug. This part is the same as earlier. The arrow is pointing to what makes this plug different. It is pointing to one of two additional locking pins. There is one on each side of the plug. These pins are intended as tamper pins and will stick into holes in the side of the shell. (See *photograph 14*.)

The next part of the system to discuss is the CyberKey. *Photograph 15*, shows the standard CyberKey. The key will operate from 32 degrees to 122 degrees Fahrenheit. In *photograph 16*, you can see three little metal pins in the tip of the key. These metal pins just happen to match the three metal contacts located on the CyberLock cylinder from *photograph 2*.

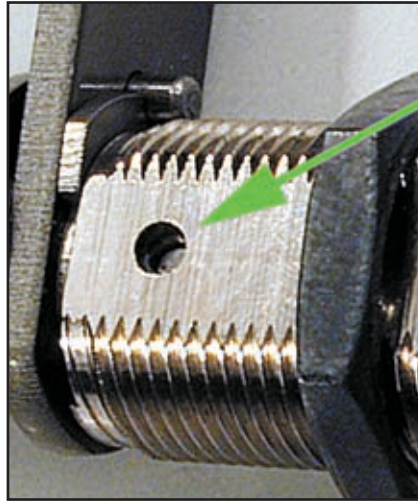
The power source for the lock and the key is located in the key itself. Pressing two small tabs on the side of the key will allow the cover to be removed. (See *photograph 17*.) It is very easy to access the battery when the time comes to change it. The battery is a 3-Volt lithium that should last for 2000 to 5000 openings. The wide range of battery life is due to some user software settings.

With a little effort, I was able to slide the circuit board from the housing. (See *photograph 18*.)



12. A view of all the parts associated with the lever.

13. Two extra tamper pins are located on either side of the cam lock plug.



14. One of two holes designed to work with the tamper pins.



15. A standard CyberKey

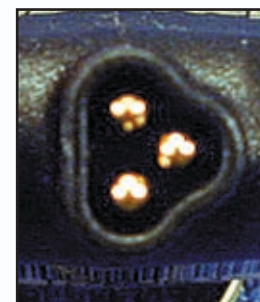
There is nothing on the board that can be repaired, but I still wanted to see what it looked like.

Photograph 19, shows the metal tipped key designed for those more aggressive users. Aside from the tip, everything else is the same.

The key is designed to serve several purposes. The most obvious is to allow access for the user. The key also has the ability to transfer data to and from the lock cylinder. This data includes transferring user information to the lock cylinders as well as returning audit trail information to the computer.

Audit information is stored in the lock cylinder and the key itself. The 1100 most recent access events are stored in the lock cylinder. 1150 most recent events of the user are stored inside the key. This means that you not only have the ability to see who has accessed a specific lock, you also have the ability to tell exactly where the user has tried to use the key.

Any information from the key or lock cylinder is transferred to the computer through the CyberKey

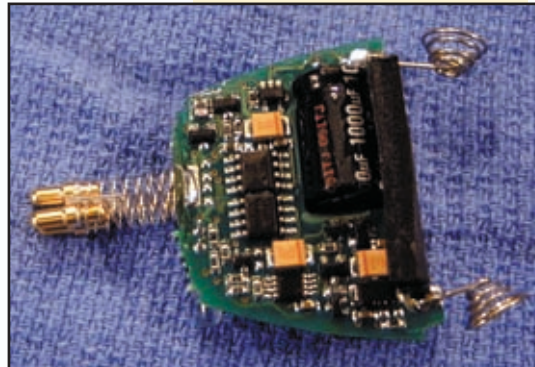


16. Here are the metal pins that touch the contacts on the lock plug.



17. The key uses a 3-Volt lithium battery.

18. The inside of the key has a circuit board with a lot of goodies.



station. (See photograph 20.) The station is connected to a desktop or notebook computer through a serial connection. (See photograph 21.) The computer has to run Windows 95, 98, or Windows NT 4.0. My system is running Windows ME and the software seems to run fine.

The software that is used to program the system is called CyberAudit. Within the CyberAudit program is another program called CyberCom. These two programs work together to allow the system manager to program the locks to the keys and the keys to users.

The CyberAudit software is supplied on a typical CD-ROM. (See photograph 22.) There is a very good manual that comes with the disk. (See photograph 23.) The manual starts with a general description and follows with a step by step procedure to install and use the software.

After installing the software, you start the program just like you would any other Windows based program. (See photograph 24.) Click the "Start" icon on the bottom left of the screen; click on "Programs" then the "CyberAudit" folder and finally the CyberAudit program.

When the CyberAudit program is started, the CyberCom program is also started. CyberCom looks to see that the CyberStation is connected to the computer and power is connected to the CyberStation. After CyberCom has decided that everything is OK, you are asked to enter a password. (See photograph 25.)



19. This is the industrial strength key. As you can see, the tip is metal instead of plastic.

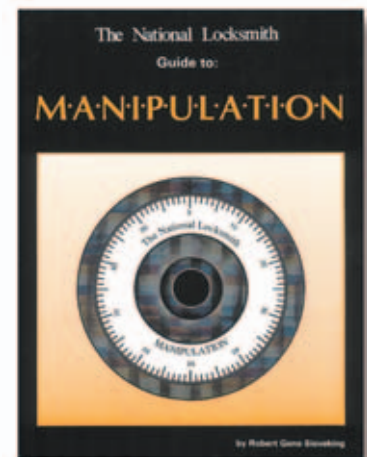


20. The CyberStation is the interface between the keys and the computer.

The password is set up the very first time the software is run. If you like, you can choose not to use a password, however if you choose "No Password" you can not change your mind later. This is a one shot deal.

After entering the password you go to the main start up window.

Manipulation Home Study Course



Our home study course guides you on step-by-step process, teaching you everything there is to know about manipulation.

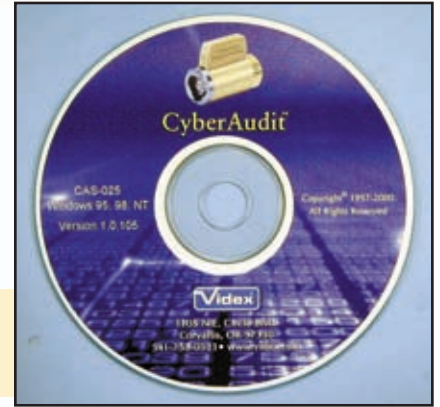
[CLICK HERE TO LEARN MORE](#)



#MAN - 1

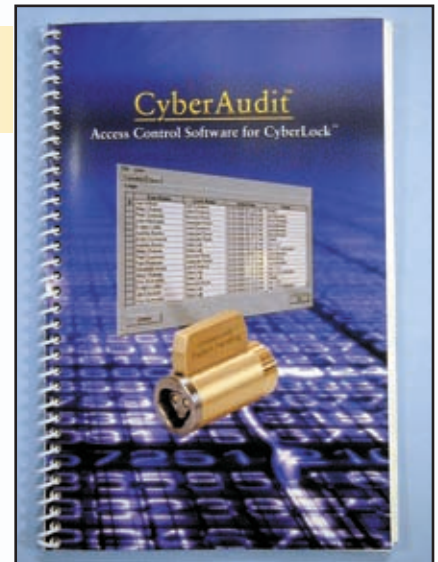


21. The CyberStation connects to the computer through a serial port.

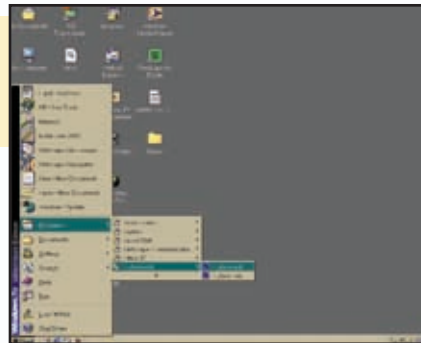
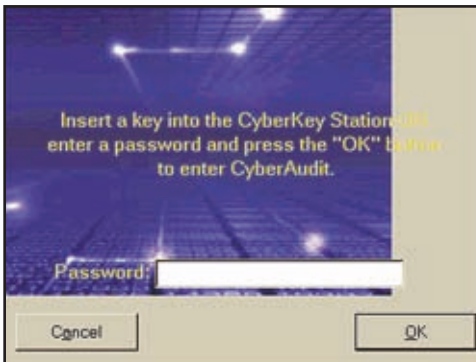


22. The CyberAudit software is supplied on a CD-ROM.

23. A very good information and instruction manual is provided.



24. The program is started like any other Windows based program.



25. Every time the program is started, a password is requested.



26. The main access window provides access to all of the other windows.

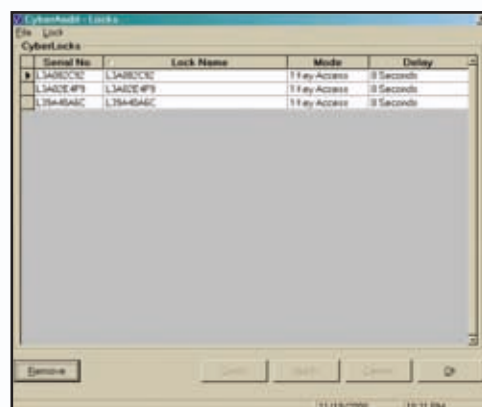
The main start up window has several options. (See photograph 26.) You are able to access locks, schedules, keys, people, holidays, logs and an option menu. On the bottom right of this window is an exit button.

By clicking on the "Locks" button in the upper right, you will be taken to a window that shows the locks in your system, their mode of access and other information about the lock. (See photograph 27.)

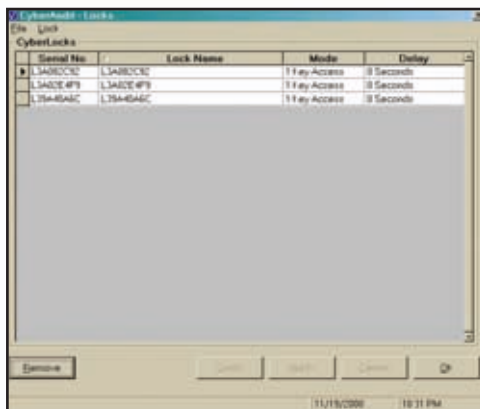
Speaking about the mode of access, the lock can be set up to require one, two, three or four valid keys before the lock will open. You are also able to program up to a twenty-minute delay before the lock will open.

The "Schedules" button will take you to a window that you can use to set or change access times and dates. (See photograph 28.) These options are available for individual locks or the entire system.

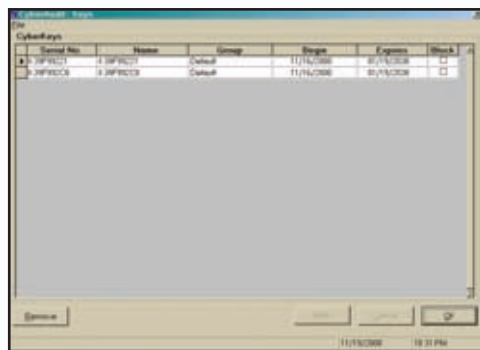
The next button will take you to the "Keys" window. This is the window that you would use to assign a key to a person, a group or to set a beginning and expiration date. (See photograph 29.) It is possible to set



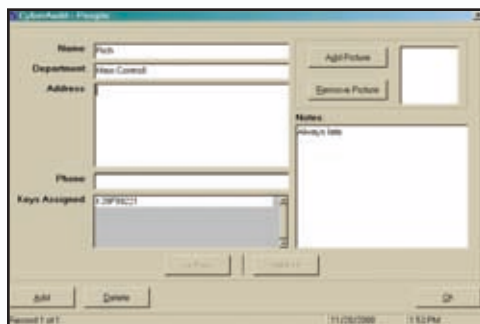
27. The "Locks" window shows all of the locks in your system as well as the mode of access for each lock and other information.



28. Schedule information is entered in the "Schedule" window.



29. A list of all of the system keys, their beginning dates, expiration dates and other information is available in the "Keys" window.



30. Employee information can be stored in the "People" window.

up a key that will only be good for one day and give it to a person weeks before it is actually valid.

The "People" window is a nice place to put personal information about the user. (See photograph 30.) Things like phone numbers and addresses are always nice to have. There is even a place to put miscellaneous notes and a photograph.

The "Logs" button brings up a very informative window that includes key and lock names if they were added. (See photograph 31.) If you don't bother to use names, you get the serial numbers of the locks and keys instead. The time and date of the event is in the next column. You are also able to view the status of the attempt. Some of the different comments in this column can include: Authorized to open, Access denied, New lock authorized, Key in lock more than one-minute etc....

From the main window there is also a button to access a window to set up holiday information and a window to adjust a few system options. The CyberAudit software does seem to cover all of the bases.

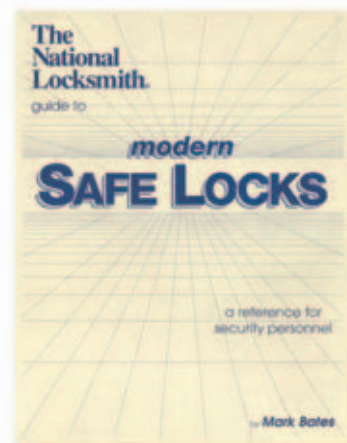
I think Videx has a winner on their hands.

For more information on the CyberLock system, give Videx a call at (541) 758-0521. They also have a web site at: www.videx.com. If you like e-mail send a request to: sales@videx.com. They will be glad to hear from you. Circle 221 on Rapid Reply. **TNL**

| Key Name | Lock Name | Date/Time | Status | Source |
|-----------|-----------|------------------------|-------------------------|--------|
| F39F99221 | L3A02E4F9 | 11/16/2000 11:07:09 PM | Authorized to open | key |
| F39F99221 | L3A082C92 | 11/16/2000 11:06:47 PM | Authorized to open | key |
| F39F99221 | L3A082C92 | 11/16/2000 11:04:10 PM | Authorized to open | key |
| F39F995F5 | L3A082C92 | 11/16/2000 11:03:37 PM | Access denied - no perm | key |
| F39F995F5 | L3A082C92 | 11/16/2000 11:01:31 PM | Access denied - no perm | key |
| F39F995F5 | L3A082C92 | 11/16/2000 11:01:23 PM | Access denied - no perm | key |
| F39F99221 | L3A02E4F9 | 11/16/2000 10:58:06 PM | Authorized to open | key |
| F39F99221 | L3A02E4F9 | 11/16/2000 10:58:04 PM | Authorized to open | key |
| F39F99221 | L3A02E4F9 | 11/16/2000 10:58:00 PM | Authorized to open | key |
| F39F995F5 | L3A02E4F9 | 11/16/2000 10:57:51 PM | Access denied - no perm | key |
| F39F99221 | L3A02E4F9 | 11/16/2000 10:57:44 PM | New lock authorized | key |
| F39F995F5 | L3A082C92 | 11/16/2000 10:57:35 PM | Access denied - no perm | key |
| F39F99221 | L3A082C92 | 11/16/2000 10:57:26 PM | Authorized to open | key |
| F39F995F5 | L3A082C92 | 11/16/2000 10:57:11 PM | Access denied - no perm | key |
| F39F99221 | L3A082C92 | 11/16/2000 10:56:52 PM | New lock authorized | key |
| F39F99221 | L3A082C92 | 11/16/2000 10:55:32 PM | New lock authorized | key |
| F39F995F5 | L3A02E4F9 | 11/16/2000 10:48:57 PM | New lock authorized | key |
| F39F99221 | L3A082C92 | 11/16/2000 10:44:12 PM | New lock authorized | key |
| F39F995F5 | L3A082C92 | 11/16/2000 10:28:31 PM | New lock authorized | key |

31. Lots of audit information is provided in the "Audit" window.

Modern Safe Locks



You always wanted to make money servicing safes?

CLICK HERE TO LEARN MORE



#MSL - 1



I 9 7 7

Mercedes-Benz

4 5 0 S L

part 2

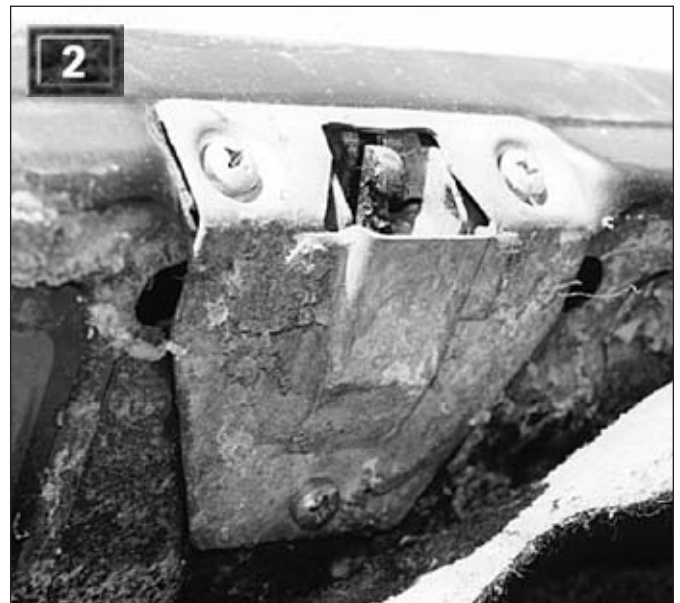
by
Michael
Hyde



This month we conclude this two part series on the 450SL Mercedes by covering the decklid and glovebox.



The decklid lock cylinder on this car is not on the decklid, but on the body of the car just above the license plate.



The next step is to remove the tru-arc ring that holds on the tailpiece.

To remove the decklid lock cylinder you must gently pull back the trim liner and then remove the 3 Phillips head bolts holding on the latch assembly.

Continued from page 26



With the tru-arc ring removed the tailpiece will slide off.



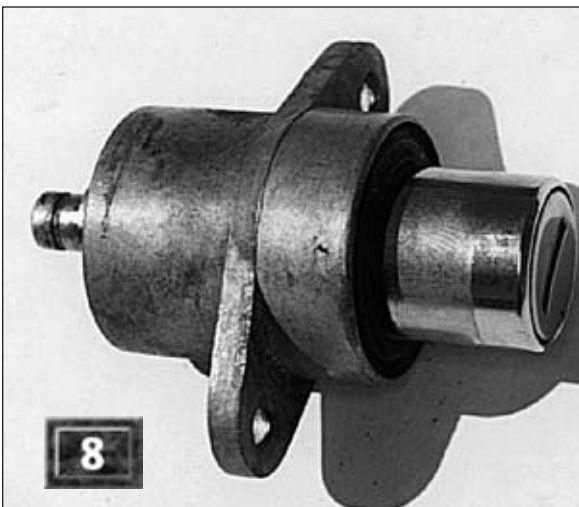
The tailpiece is connected to the air power lock actuators. This system uses air pressure to lock or unlock the locks.



The power lock actuator is held to a steel plate inside the trunk.



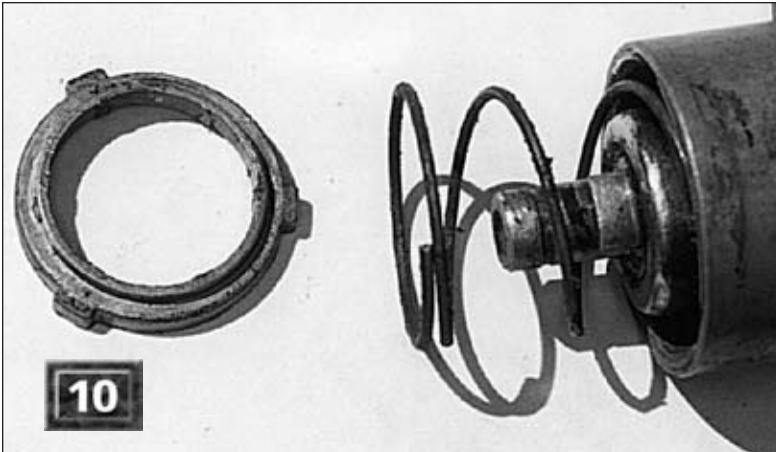
Remove the 10mm fasteners that hold the lock cylinder in place.



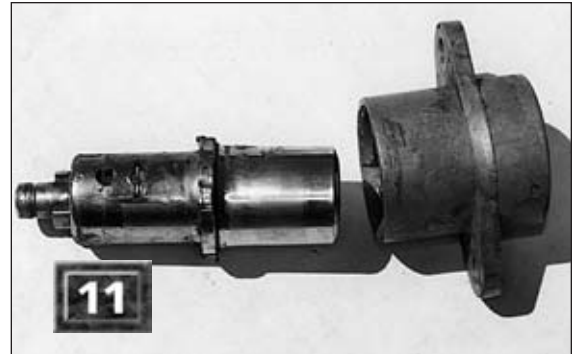
The lock can then be removed.



On the back of the lock cylinder is a retainer ring. Push in on the retainer and rotate it until it releases



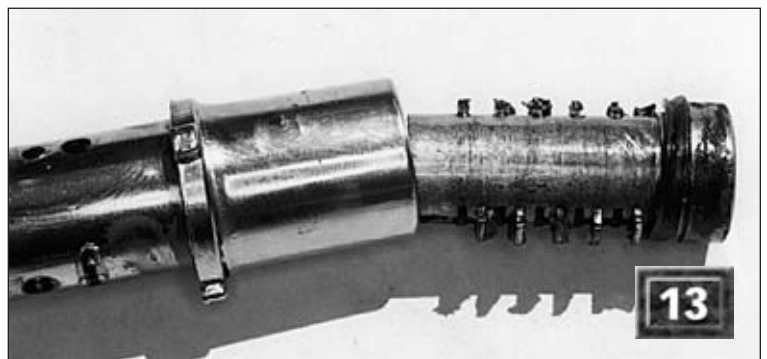
There is a large spring behind the retainer ring.



The cylinder slide's right out the back of the housing.



There is a wedge plug retainer that must be removed.



The cylinder can now slide out the housing without a working key.



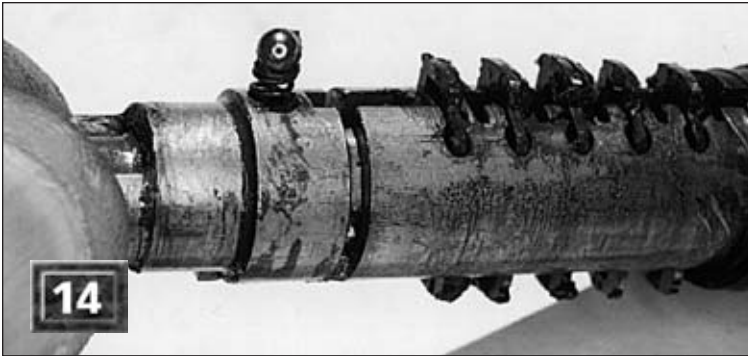
How To Create Master Key Systems

Never has there been a more concise, easier to understand program to teach Master Keying.

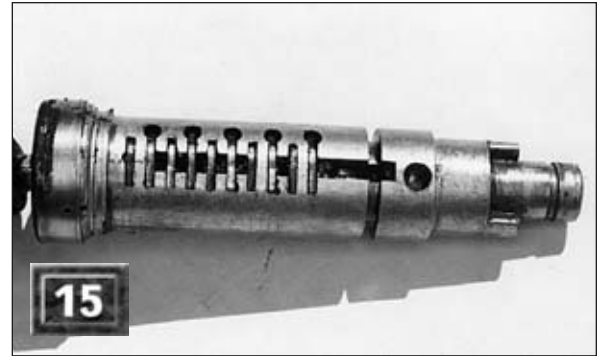
[CLICK HERE TO LEARN MORE](#)



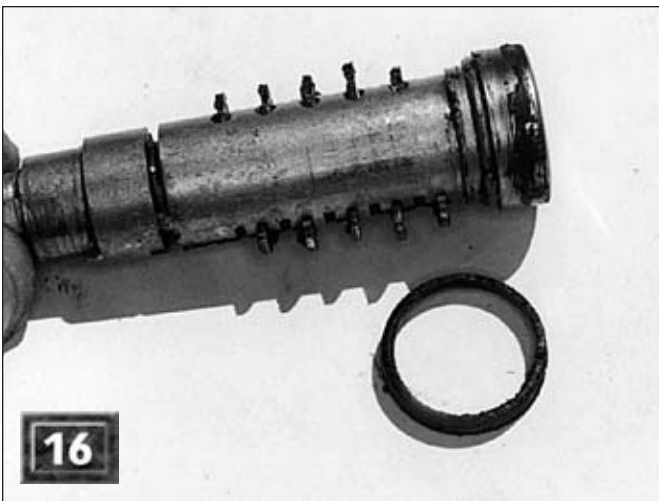
#HT - CMK1



There is a spring and ball bearing detent in the rear of the plug.



The decklid cylinder plug contains all 10 tumblers needed for a complete key.



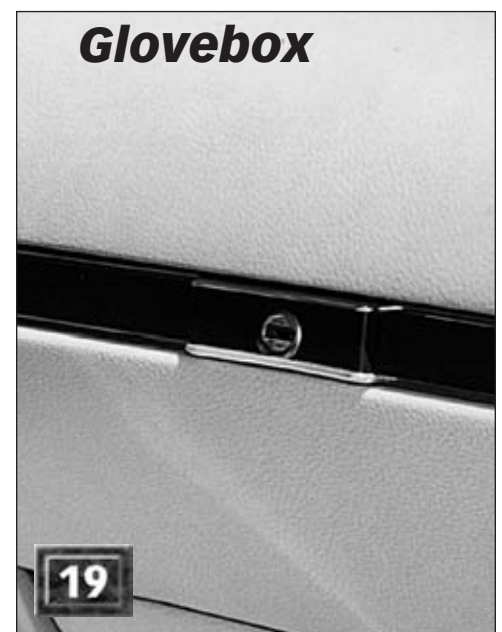
Just like the door lock there is a rubber o-ring that sits on the plug near the bow.



The trunk lock cylinder disassembled.



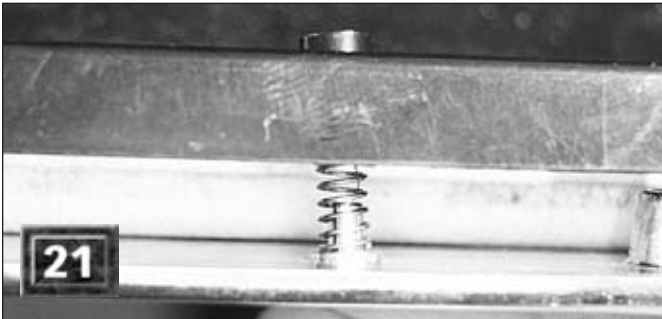
There is an access hole in the cylinder plug housing for loading the ball bearing and spring.



The glove box lock slide from side to side to unlock the door.



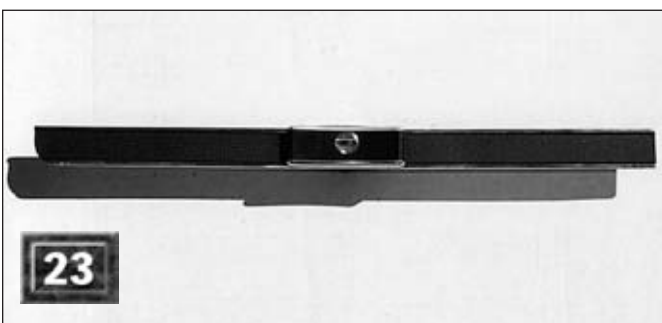
Remove the 4 Phillips head screws to get the lock cylinder out.



There is a spring-loaded detent for the light in the glove box door.

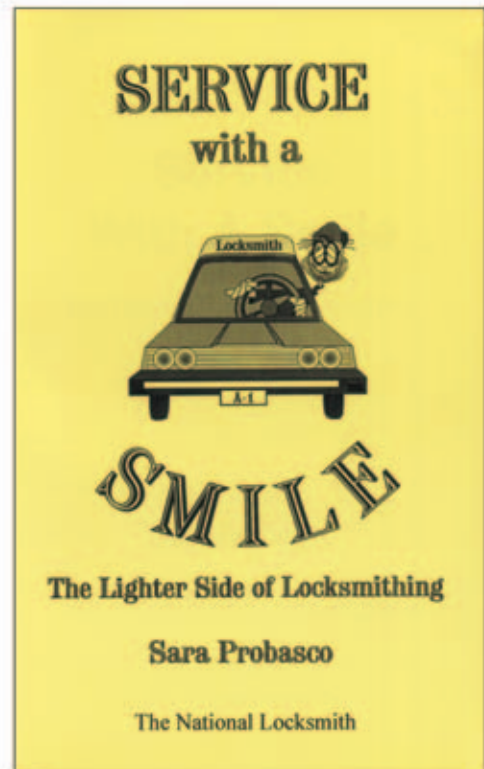


Save these parts as you remove the lock cylinder trim.



The glove box lock cylinder and trim removed from the car.

Service with a Smile



To tickle the funnybone of anyone in a service oriented business.

[CLICK HERE TO LEARN MORE](#)



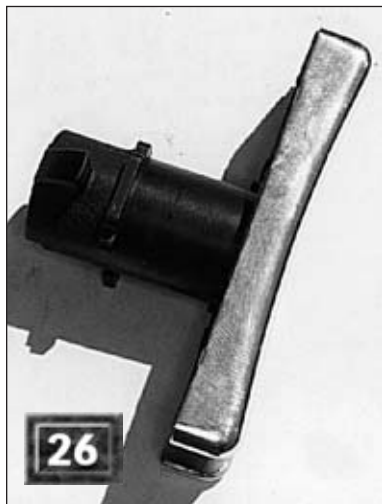
#SWS



On the top of the trim assembly is a black plastic horseshoe style clip.



The horseshoe clip slides off to get the cylinder out.



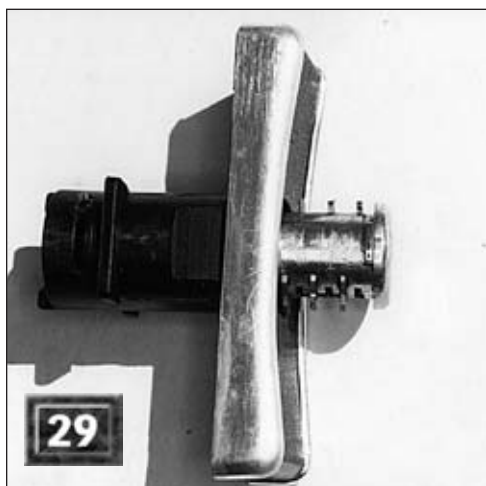
The lock cylinder removed from the trim.



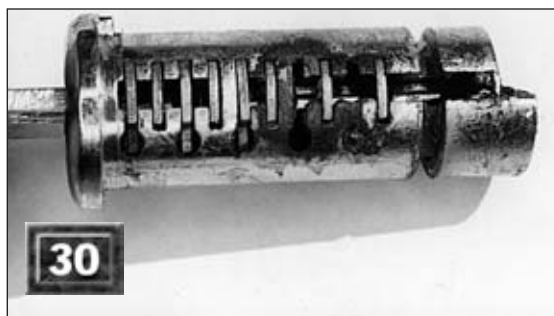
There is a metal wedge plug retainer that must be removed from the plastic housing.



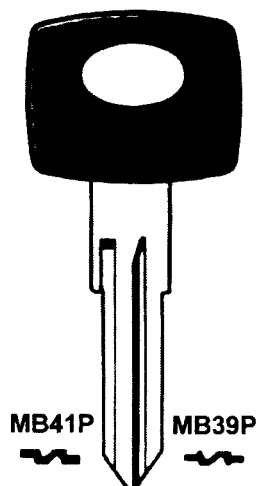
Drill a small hole next to it and pry out the wedge.



The glove box cylinder plug slides out the front of the housing.



The glove box cylinder plug contains 8 tumblers. Positions 7 & 9 were left empty at the factory.



MAKING FIRST KEY:

1. Remove glove box lock cylinder and decode the tumblers. Progression missing cuts in the doors for master key.
2. Remove passenger door lock cylinder and decode the tumblers. Progression missing cuts in the glove box for master key. **TNL**

| B CODE SERIES: HD/ND 4001-7350, HF/NF 1-1200, HZ/NZ 1-1200 | | | | | | | | | | | | |
|--|------|----------------------------|------|------|------|------|-------------------|------|------------|-----|---------------------|--------|
| Bow | | SPACING | | | | | | | | Tip | Cut to Cut: .083 | DEPTHS |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | | |
| .107 | .189 | .272 | .354 | .437 | .520 | .602 | .685 | .768 | .850 | | 1 .327 | |
| | | | | | | | | | | | 2 .303 | |
| Key Blanks: | | ILCO: X82, X83, MB39, MB41 | | | | | SILCA: YM23, HU36 | | | | 3 .280 | |
| Reed Codes: | | 6-01-155 | | | | | HPC 1200 CM | | CF33, XF33 | | 4 .256 | |
| Curtis Clipper: | | N/A | | | | | ITL MFG: | | 62 | | | |
| Pak-A-Punch | | N/A | | | | | M.A.C.S.: | | 2 | | | |
| NOTES: | | | | | | | | | | | | |

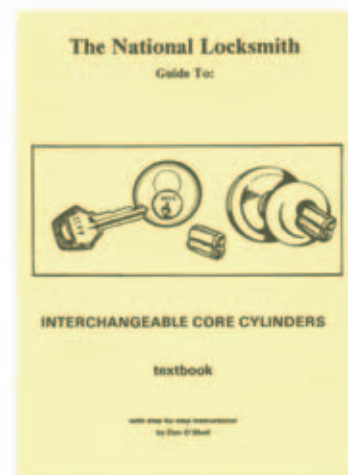
DEPTHS
 1 .327
 2 .303
 3 .280
 4 .256

ISC East Expo Exhibitor List

| Company | Booth | Company | Booth | Company | Booth |
|--|--------------|---|--------------|--------------------------------|--------------|
| 3R Technologies | 1901 | Be At Home.Com | 2319 | Dice Corporation | 1654 |
| A&D Systems Technologies | 2067 | Belden Electronics Division | 2336 | DigiQuest, Inc | 783 |
| A&S International Magazine | 2263 | Biometrics 2000.com | | Digital Logic USA, Inc. | 1080 |
| Access Control Magazine & SSI/Seguridad Latina | 1962 | Corporation | 1764 | Digital Monitoring Products | 929 |
| Access Hardware Supply | 2240 | Bioscrypt Inc. | 1965 | Digital Security Controls Ltd. | 1701 |
| Ace Wire & Cable Co. nc. | 428 | Bi-Tronics Inc. | 1438 | Digitize, Inc. | 322 |
| ACT Meters Ltd | 2143 | Blick USA / Myeasinet | 1966 | Ditek Inc. | 654 |
| Adams Electronics | 1159 | Blick/PAC Portico | 1773 | DoorKing, Inc. | 529 |
| ADC Technologies | | Bogotech Co., Ltd. | 1661 | Dortronics Systems, Inc. | 1472 |
| International PTE LTD | 1462 | Bold Technologies Ltd. | 829 | Drug Free Enterprises | 1362 |
| ADEMCO Group | 1419 | Bolide International Corp. | 660 | DSX Access Systems, Inc. | 1473 |
| Ademco/Northern Computers | 1437 | Boowon Optical | 458 | Dynalock Corp. | 2237 |
| ADI | 819 | Broadware Technologies | 761 | Edwards Signal & Fire Alarm | 1343 |
| Adrian Steel Company | 1573 | Butterworth Heineman | 549 | Elbex America NY Inc | 343 |
| ADT Security Services, Inc. | 837 | C P Films | 423 | Electrical Contractor Magazine | 330 |
| Advanced Technology Video, Inc. | 573 | C.J. Rush Industries | 2225 | Electronic Technical Services | 427 |
| Advanta Leasing Services | 1063 | C.O.P.S. Monitoring | 847 | Electronics Line | 1446 |
| Adyoron Intelligent Systems, Ltd. | 673 | Cabletronix | 665 | Elite Access Systems | 1673 |
| AEI Components/Acceler | 1373 | Canadian Flexi Drills | 1242 | Elk Products, Inc. | 2205 |
| AES-IntelliNet | 1267 | Canon USA, Inc. | 862 | ELMO | 964 |
| Affiliated Central Inc. | 1907 | Capricorn Electronics, Inc. | 328 | Eltis, USA | 1160 |
| Aiphone Communication Systems | 1149 | Caseta Tech | 1765 | Emergency 24 | 1146 |
| Alarm Central, Inc. | 1145 | CBC America Corp. | 745 | EnerSys | 2058 |
| Alarm Processing Corp. | 1342 | CCTV Tech | 579 | Epcom | 678 |
| Alarmpath Inc. | 1975 | CE Pro Magazine | 1949 | Eurocomp, Inc. | 2041 |
| AlarmSoft Inc. | 313 | Central One Monitoring | 1344 | Evax Systems | 1486 |
| AlarmWatch Monitoring | 1861 | Channel Vision Technology | 2508 | Excelsus Technologies | 1476 |
| Alco Advanced Technologies, Inc. | 1567 | Checkfree | 1238 | Extreme CCTV Surveillance | 1337 |
| A-Link USA | 601 | Checkpoint Systems, Inc. | 2254 | Exxon Mobil Corporation | 219 |
| All Time Detection | 1173 | Chowsons Holdings Ltd. | 1064 | Fame USA | 1947 |
| Alpha Communications Inc. | 1140 | Clark Security Products | 2167 | Fargo Electronics, Inc. | 1566 |
| Altronix Corporation | 1447 | Clifford of Vermont, Inc. | 325 | Fiber Options | 755 |
| Amco Engineering Company | 867 | Clover Electronics | 1037 | Financial Security Services | 1755 |
| American Fibertek Inc. | 2155 | Code Access Inc. | 1560 | Fire Fighting Enterprises, Ltd | 324 |
| American Predator Corporation | 1364 | Comprehensive Identification Products, Inc. | 430 | Fire King/Image Vault | 879 |
| American Saferoom Door | 331 | Computerized | | Fire.Lite Alarms, Inc. | 519 |
| American Video Equipment | 878 | Monitoring Services | 419 | Flair Electronics, Inc. | 1236 |
| Amseco | 1363 | Conduumex, Incorporated | 1158 | Ford Wire & Cable Corp | 2140 |
| Andover Controls Corp. | 1629 | Control Screening | 1360 | Frisco Bay Industries | 773 |
| Anixter Wire Cable | 418 | Cop-Usa Inc. | 1060 | Garrett Metal Detectors | 2179 |
| Appro Technology, Inc. | 664 | Costar Video Systems | 1073 | General Solutions, Ltd. | 1155 |
| AR Media | 2363 | Crow Electronic Engineering, Inc. | 2001 | Genesis Cable Systems, L.L.C. | 1124 |
| Array Microsystems | 1241 | CSI/Speco/Pro-Video | 855 | Genex Technology | 216 |
| Atlas Wire & Cable | 1968 | cVideo Inc. | 1045 | Genwac | 655 |
| Atop Technologies of America | 1059 | D/B Cameras-Microcheck/ | | Government Video | 2341 |
| ATW/Alarm Technology Worldwide | 2043 | Ducommun Technologies, Inc. | 1448 | GRI | 518 |
| Avermedia Systems, Inc./Microjack | 979 | Dahle U.S.A. | 1973 | GSP Systems Inc. | 1077 |
| Awid, Inc. | 1664 | Darim Vision Co. Ltd | 873 | Guardall North America | 1561 |
| Axis Communications, Inc. | 1055 | Dedicated Micros Ltd. | 555 | Guardware Systems | 1960 |
| B & B Battery (USA) Inc | 1340 | Delta Designs | 234 | GYR Inc. | 861 |
| | | DeltaVision | 1701 | Han Kwang Opto Corporation | 962 |
| | | Detection Systems Inc. | 1919 | Hanchett Entry Systems, Inc. | 1760 |
| | | Detektor Magazine | 2267 | Hayden Manufacturing | 2321 |
| | | DETEX Corporation | 2073 | Heart Enterprise Co., Ltd. | 1864 |
| | | | | HID Corporation | 607 |

| | | | |
|---|------|---------------------------------|------|
| Hilton Trading Corp. | 565 | Maestro Access Controls, Inc. | 1873 |
| Hirsch Electronics Corp. | 401 | Make Sense Solutions | 1041 |
| Home Automation Inc. | 2204 | Marks USA | 2348 |
| Homeowners Marketing Services | 332 | Marlin Leasing | 1663 |
| Hsintek Electronics Inc. | 865 | Marray Enterprises, Inc. | 1666 |
| Hundure Technology Co., Ltd. | 1860 | Marshall Electronics | 766 |
| ID Systems | 1866 | Maxwell Alarm Screen Mfg. | 1248 |
| IDC | 2255 | Mayflower Sales Co Inc. | 2150 |
| Ideal Industries Inc. | 2362 | MBM Corporation | 2113 |
| Identix | 1465 | MCDI | 315 |
| Idesco Corporation | 1461 | MCS Communication Systems | 1701 |
| Ikegami Electronics (USA), Inc | 765 | Metorex Security Products, Inc. | 461 |
| Ilco Unican Inc. | 1769 | Micro Key Software, Inc. | 1047 |
| Image Sensing Systems Inc. | 982 | Microtest, Inc. | 2506 |
| ImageCorp Inc. | 662 | MIRTONE | 536 |
| iMPath Networks Inc. | 545 | Monitoring Automation Systems | 2007 |
| InfoGraphic Systems Corp. | 2107 | Monitronics International, Inc. | 2331 |
| Ingersoll-Rand Architectural Hardware | 1455 | Monthly Security World | 2347 |
| innovative Business Software | 1273 | Morse Watchmans, Inc. | 443 |
| Inout Systems | 1701 | NAPCO Security Group, Inc.. | 1619 |
| Inovonics Corp | 2060 | NAVCO | 883 |
| Integral Technologies, Inc. | 1629 | Network Korea | 981 |
| Intelligent Digital Systems, Llc | 1955 | Network Video Technologies, Inc | 1061 |
| Interlogix | 1836 | New Media Advertising | 2361 |
| International Assoc. of Professional Security Consultants | 463 | Nissei Sangyo | 1358 |
| International Fiber Systems | 429 | Nitek | 760 |
| ISO/Rainbox CCTV | 561 | Noritake Co., Inc. | 1245 |
| IVEC Corporation | 887 | NTK Newtek | 1161 |
| Izzo Insurance Services, Inc. | 1243 | NYPD Crime Prevention Division | 2364 |
| J.A.M. Plastics Inc. | 1761 | Odyssey Technologies | 963 |
| J.C. Gury Co. | 323 | Omron Electronics, Inc. | 1240 |
| Jatel U.S.A. Inc. | 1354 | OnQ Technologies | 2517 |
| Jeron Electronic Systems, Inc | 2044 | Optelecom Inc. | 437 |
| Jite Connectors, Inc. | 2142 | Optex | 947 |
| JJ Communications | 1230 | Opticom Technologies, Inc. | 1237 |
| JLM Wholesale Inc. | 1442 | Ortronics Inc. | 2418 |
| Joseph A. Thomas, Ltd. | 2048 | OSI Security Devices | 1667 |
| K & M Enterprise, Inc. | 424 | Panasonic Security & | |
| Kalatel, Inc. | 1836 | Digital Imaging Company | 1646 |
| Kaltech Electronics | 501 | Panavise Products, Inc. | 661 |
| Kantech Systems Inc | 1701 | Parabit Systems | 567 |
| Keltron Corporation | 314 | Paradox | 2337 |
| Keri Systems, Inc. | 1865 | Paragon Imaging | 658 |
| Key Systems Inc. | 1564 | Paso Sound Products, Inc | 422 |
| Keyscan Inc. | 1366 | PC Open, Inc. | 237 |
| KIC Products | 2047 | Pelco | 718 |
| Kodicom Co, Ltd | 349 | Polaris Telemetry Ltd | 1131 |
| KP Electronics Inc | 1341 | Posdata | 2029 |
| KT&C USA | 967 | Power-Sonic Corp | 2141 |
| L-3 Communications | 1454 | Ppal Industries | 1259 |
| Labor Saving Devices | 1231 | Precise Biometrics | 1565 |
| Lanex, LLC | 455 | Prime Technology Co | 2070 |
| Laser Shot, Inc. | 2409 | Protech/Protection Tech | 1137 |
| LBT Systems | 218 | Protection One | 1261 |
| Leadtek Research Inc. | 764 | PULNiX Sensors, Inc. | 2219 |
| Lease Acceptance Corp. | 333 | Pyronix Ltd. | 1330 |
| LeaseComm Corporation | 425 | Radionics | 1919 |
| Leasing Associates | 1265 | Ranger Security Detectors, Inc. | 1347 |
| Lee Dan Communications Inc | 1263 | Rapid Response Monitoring Serv | 629 |
| Linear Corporation | 1828 | Record/Playtek, Inc. | 1128 |
| Linear/Xantech | 2211 | Research Electronics | |
| Link Guard | 329 | International | 1660 |
| Louroe Electronics | 1078 | Rodman & Company | 1118 |
| Macrossystem | 1348 | Rokonet Industries | 337 |
| Macurco Gas Detectors | 240 | Rosslare Security Products | 1464 |
| | | RTI Securex | 1154 |

Interchangeable Core Cylinders



Covers all this...

- Best/ Falcon/ Arrow/
Eagle/ (A2) • Best A3
- Best A4 • Corbin X
Removable Core
- Corbin Z Removable
Core • Russwin
Removable Core
- Emhart System 70
Removable Core
- Sargent Removable
Core • Schlage, Yale,
Lockwood • Medeco
Removable Core

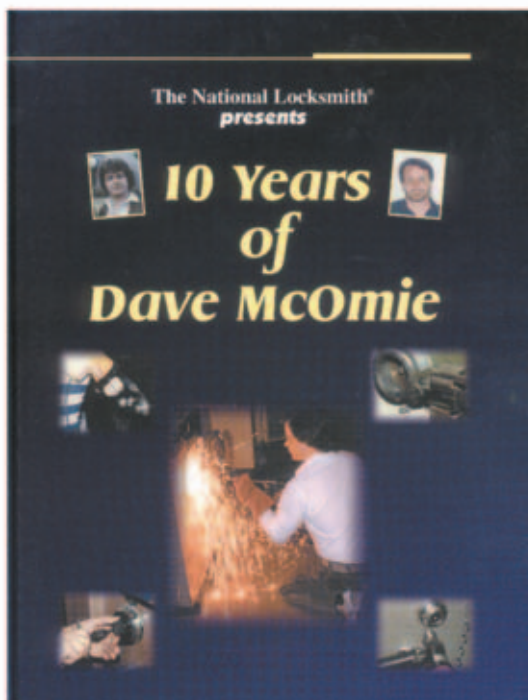
CLICK HERE TO LEARN MORE



#ICB - 1

| | | | | | |
|--------------------------------|------|----------------------------------|------|---------------------------------|------|
| Safe Financial | 2072 | SMaL Camera Technologies | 667 | TII network technologies | 2305 |
| Safeguards Security Service | 1345 | Sonntag | 1147 | Tiscor | 2360 |
| Safeguards Technology, Inc. | 1246 | Southwest Microwave | 442 | Tomsed Corporation | 1325 |
| Safety Technology Internat'l | 2061 | Sperry West | 1359 | Total Recall Corp. | 666 |
| Sanyo Fisher Company | 564 | Sprint North Supply | 1929 | ToteVision | 1372 |
| SDM Magazine/ | | Spy Cameras For Less | 318 | Trango Systems | 779 |
| Security Magazine | 645 | Stat Resources, Inc | 1319 | Trigon Electronics, Inc. | 1244 |
| Secura Key | 1855 | Storm Data Entry Technology | 2241 | Triplett Corporation | 1165 |
| Secure Access Portals | 1458 | Stradient, Inc. | 1083 | Ultra Electronics Systems | 2273 |
| Securitech Group, Inc. | 2037 | StraightlineSupply.com | 2208 | Underwriters Laboratories, Inc. | 1346 |
| Securitron Magnalock Corp | 2011 | Street Smart Security | 1961 | Union Battery Corp | 1247 |
| Security Dealer | 578 | Sur-Gard Security | | United Security Products | 1136 |
| Security Door Controls | 2055 | Communications | 1701 | Universal Battery Corporation | 320 |
| Security eCommerce Inc. | 2045 | Synergistic | 1467 | Uplink Security, Inc | 1911 |
| Security Information Systems | 412 | System Sensor | 513 | USI Insurance Services | 2553 |
| Security Lock Dist. | 2066 | Systems Distributors, Inc | 540 | V Protect System, Inc. | 882 |
| Security Products Magazine | 473 | T.S. Microtech Incorporated | 2359 | VCR, Inc. | 680 |
| Security Southern Africa | 2042 | Tamron USA, Inc. | 978 | Vicon Industries Inc. | 537 |
| Security Systems News | 1141 | Tane Alarm Products | 1068 | Video Mount Products | 960 |
| Security Technology & Design | 2147 | Tatung Company of | | Videology Imaging Solutions | 961 |
| Seecurity.com | 1955 | America, Inc. | 1262 | View Systems | 1067 |
| Seguridad en America | 327 | Teldat | 2137 | Vitek Industrial Video | |
| Select Engineered Systems, Inc | 1331 | Telesite USA Inc | 1031 | Products, Inc. | 880 |
| Senstar-Stellar, Inc. | 2261 | Telexper Inc | 560 | Watec America Corp. | 2161 |
| September International Co Ltd | 524 | Tellure Marketing & Distribution | 2148 | WebEyeAlert | 1249 |
| SG Wireless Communications | 1701 | Telpix Inc. | 576 | WeSpot | 572 |
| Siedle Communications | 1659 | Telular Corporation | 528 | Wheelock, Inc. | 1255 |
| Siemens PSE TechLab | 410 | Testrite Instrument, Co., Inc. | 1367 | Wing Enterprises Inc. | 542 |
| Silent witness | 973 | Test-Um Inc. | 2511 | Winsted Corporation | 1266 |
| Sims Inc. | 526 | Texecom Ltd. | 1355 | X-10 Pro | 2119 |
| Sira SRL | 644 | The Hartford Insurance Group | 1162 | | |
| SLP Direct | 1142 | The Systems Depot | 2210 | | |

TNL



10 Years of Dave McOmie

Every single National Locksmith article by Dave McOmie from August 1986 through August 1996 under one cover!

CLICK HERE TO LEARN MORE

#DM - 10

ISC East Expo

Product Showcase



CLUB ISC Launched at 2001 ISC EXPO/EAST

The International Security Conference & Exhibition (ISC EXPO) will introduce CLUB ISC, a new program designed to reward exhibitor's most loyal customers, to its 2001 East event. ISC EXPO/East, co-located with The Home Automation Show, will take place August 28-30, 2001, Jacob. K. Javits Convention Center, New York, NY.

CLUB ISC, which made its debut at 2001 ISC EXPO/West, is reserved for the security industry's top professionals and buyers. The Club's goal is to provide a focused business environment where the top security professionals can meet suppliers and ensure a productive and valuable visit to ISC EXPO. Companies may nominate from 10-40 of their top customers to CLUB ISC.

CLUB ISC membership entitles nominated attendees to a range of valuable benefits. Perks include VIP Status at ISC EXPO, exclusive use of the CLUB ISC Lounge, complimentary lunch provided in the lounge, gift-bags from ISC EXPO, and free admission to a 1- or 2-hour seminar of choice.

Nominated attendees and companies who did not participate in the new program in Las Vegas, are encouraged to do so for ISC EXPO/East, Baird said. "We are thrilled with the feedback we've received so far. CLUB ISC is a great VIP program and we'd like to see even more companies take advantage of this complimentary business opportunity."

To nominate members to CLUB ISC or to learn more about the program, please contact Lisa Colson at: 203-840-5322, or e-mail: lcolson@reedexpo.com.

For information on attending or exhibiting at ISC EXPO or The Home

Automation Show, call Customer Service at 203/840-5602 or visit the website at <http://isc.reedexpo.com> or <http://homeautomationshow.reedexpo.com>.

STI Bio Cover

Safety Technology International's 6520 Bio Protector, is molded of thick polycarbonate material that is UV-stabilized against discoloration and carries a lifetime guarantee against breakage in normal use. Available in smoke for privacy, the unit measures, 3.86" (98mm) wide x 6.37" (161mm) high x 3" (76mm), front to back.



It is easy to install and is shipped complete with anchors, screws and gasket.

Visonic Inc. Outdoor Keypad

The CL-81 is a tough anti-vandal resistant indoor/outdoor access control keypad. Made of rugged, all metal die-case housing and keytops, the CL-81 is

suitable for the most demanding environments (rain, sleet and snow) as well as extreme heat and cold.



To prevent vandalism, the tough external keypad is held in place by special security screws and a tamper switch is included to detect separation from the wall. The CL-81 actually includes two keypads, one external and one internal keypad. The "brains" of the CL-81 are enclosed in an indoor unit, the CL-8A, designed to be safely installed within the protected premises, out of reach from vandals. The CL-8A offers up to 56, eight-digit user codes, EEPROM, three separate outputs and it operates on 12 or 14 volts AC or DC.

IGD Intelligent Register Cash Drawer



Indiana Cash Drawer Company's SL185145 cash drawer is engineered to complement the Epson® Intelligent Register product line. The unit has a steel case and drawer front with a linear ball-bearing suspension system. Customers may choose from a variety of colors. The drawer measures 18.5 inches long by 14.5 inches wide by 3.5 inches high and has four currency compartments and four coin tills. The drawer has a three position, four function high-security tubular center key lock. Drawers can be keyed alike, keyed different or keyed random. It can be mounted over or under the counter without special brackets.

SDC Access Control with Wizard Software

Designed for applications big or small, the new E3 EntryCheck is a 2-reader controller, for up to 3000 users, with 50,000-transaction history and is expandable up to 32 controllers and 64 readers. The Windows based Configuration Wizard software provides automatic program, installation, set up and user-friendly system management. The most commonly used time schedules, authorization levels and holidays are pre-programmed and easily modified. Proximity readers and RS485 are standard. Extras include; built-in power supply, with one 12VDC charger output for battery back-up of the controller and electric locks, and a fire/emergency release input.



Jensen JTK-66 Electrician's Tool Kit

The JTK-66 is perfect for electrical, low voltage, and general maintenance work. The heavy-duty 5" wide nylon belt outlasts leatherwork belts and provides lumbar support. The tool pouch has a large main pocket with tool holders, formed front pockets, side tool loops, a tape measure clip, and a chain toggle for electrical tape. The tool pouches are movable on the belt for a custom fit and feature

The kit contains industry standard tools, including four sets of pliers, four screwdrivers, a stripper/cutter, a utility knife, an adjustable wrench, and more.



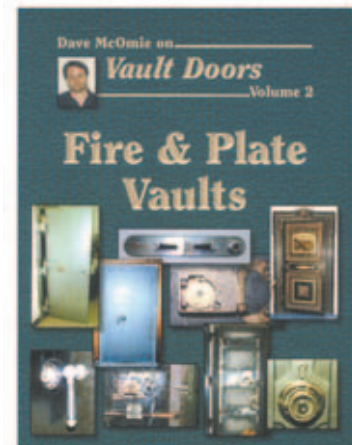
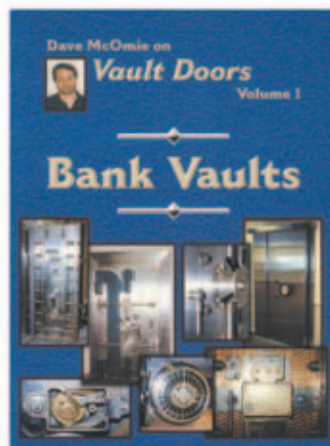
Trine Upgraded Digital Receiver and Transmitter

Trine Access Technology has released the latest version of the popular digitally coded receiver and transmitter. The 017TDC receiver boasts a 6500 code capability, while the 018-1 transmitter is pocket sized and features a 2-30 second time delay. The transmitter has a "line of sight" operating range of 150' and is equipped with a dry "C" relay. Thus adding self powered locks to standard uses such as electric strikes, garage door opener,

electromagnetic locks and electric locks. Trine digital units drastically reduce installation time by eliminating the need for wiring, thus reducing costs.



Dave McOmie on Vault Doors Vol. 1 & 2



These openings can be a nightmare, but
not when you bring Dave McOmie
along with you on the job.

CLICK HERE TO LEARN MORE



KeyWizard by Medeco®

Medeco announced the introduction of KeyWizard, a brand new comprehensive key management software package that allows users to keep track of their keys, key holders and hardware information. The program features easy to navigate, non-cluttered screens and uses a layout similar to Microsoft® Outlook. Additional features include extensive hardware listings, cylinder pinning

calculator, true sorting of key symbols and signature and photo ID capability.

Secura Key Four Color Brochure

A new eight-page product line brochure from Secura Key is now available. This four-color publication describes the various product families available from Secura Key, including Entracomp®, and Radio Key® proximity access control. The all-new e*Tag® high frequency 13.56 MHz RFID technology and a Sentinel® asset protection systems are also profiled.

With four models to choose from, the ENFORCER series of power supplies/chargers offers solutions to the installer to fit a wide range of applications. The ST-1206-1.5A provides 1.5A continuous, 2A peak output at 6, or 12VDC. The ST-2406-2A provides 1.5A continuous, 2A peak output at 6, 12 or 24VDC. The ST-2406-3A provides 2.5A continuous, 3A peak output at 6,12 or 24VDC, and the ST-2406-5A provides 4A continuous, 5A peak output at 6, 12 or 24VDC.

Maestro Access Controls, Inc.

Maestro Access Controls, Inc. has a new family of proximity card readers. The readers are universal in design making them compatible with retrofits, as well as new installations. A quick housing cover change will take you from one model to another, keeping inventory stocking requirements low and installations simple. Maestro provides complete solutions for all your door security requirements.

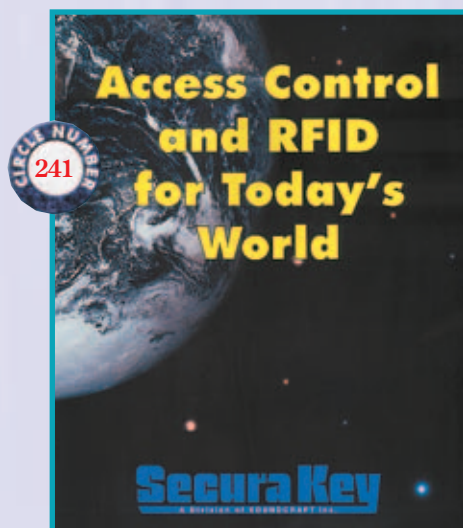


Visonic Single Door Proximity Access Control System

The VXS-5 and VXM-5 are the ideal proximity access control systems for small sites with a need for 25 users or less. Both installers and end-users will appreciate the simplicity of these systems. They consist solely of a wall (VXS-5) or doorframe (VXM-5) mounted reader/controller in a single unit with six encoded tags. There's no need for a separate controller unit. No need for a PC or a programmer.



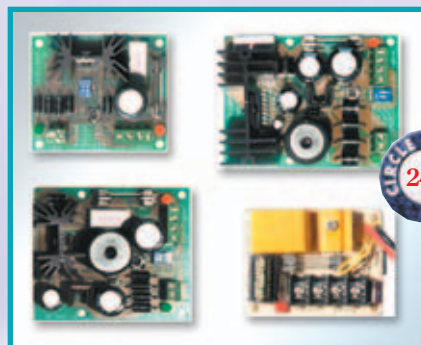
TRL



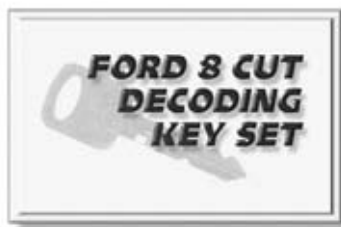
Seco-Larm ENFORCER® Power Supplies/Chargers

The new ENFORCER 2406 series of compact design power supplies/chargers, convert low-voltage AC input power to low-voltage DC output power and are used in a variety of security, access control, CCTV and many other applications.

These low-operating-temperature systems provide switch-selectable, regulated and filtered DC voltage output, with short circuit protection, thermal protection and compensation. They also feature a built-in backup battery charger with fused protection, which switches to backup battery automatically in case of power loss.



Ford 8 Cut Decoding Key Set



CLICK HERE TO LEARN MORE



#FD - 8

Schlage's **NEW** BC100 Series



by
Sal Dulcamaro,
CML

Schlage has recently introduced its new BC100 Grade 2 SchlageBolt. It is new, yet in many ways it is a very familiar looking deadbolt lock. Representative of most variations of the new product line, *photograph 1*, shows (from left to right):

1. The BC162 double cylinder deadbolt in Satin/Antique Brass (609) finish, with a conventional 6-chamber pin tumbler cylinder.

2. The BC160 single cylinder deadbolt in Satin Chrome (626) finish, with small format IC (SFIC) pin tumbler cylinder.

3. The BC160 single cylinder deadbolt in Bright Chrome (625) finish, with large format/ full size IC pin tumbler cylinder.

4. The BC160 single cylinder deadbolt in Bright Brass (605) finish, with an Everest (non-IC) 6-chamber pin tumbler cylinder.

Most of what is shown is available in single and double cylinder versions (in any or all the finishes shown). Finishes not shown are: Satin Bronze (612) and Oil Rubbed Bronze (613). The one lock function not shown is the BC180, which is thumb-turn only (no outside cylinder or operation). That should be available in all six finishes identified above: 605, 609, 612, 613, 625 and 626.

What you will find familiar is the BC100's outward physical similarity to the B100 line. Not identical, but the ancestry is apparent. Now the B100 line is Grade 3. The BC100 line itself originated as a Grade 3 lock, but it is now being made to meet Grade 2 standards.

Photograph 2, shows a side by side comparison of the BC160 (on the left) and the older B160 (on the right). Except for the obvious difference in color/finish, other differences don't

immediately jump out at you. Let's review some of the differences.

Photograph 3, shows what you might see on the exterior side of the door. There are no obvious visual distinctions (excluding finish) to be made on the outside parts of the BC160 and B160. There are physical and material differences that are not visible, from the outside view, which will be discussed shortly.

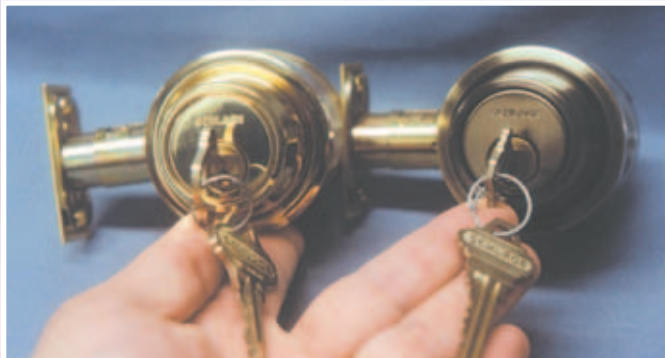
The inside thumb-turn side is a different story. There are observable differences between the BC160 (left) and the B160 (right). (*See photograph 4.*) Two things stand out. The arrangement of the screws is different, as is the overall contours of the thumb-turn itself. If you run into some



1. Variations of the Schlage BC100 product line.



2. The BC160 (on the left) and the older B160 (on the right).



3. Exterior of the BC160 and B160.



4. Thumb-turn differences between the BC160 and the B160.

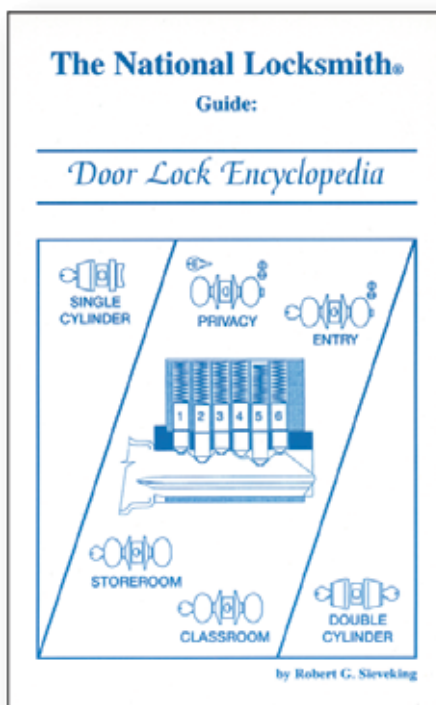


5. A "within the door" view of the lock's internals.



6. The lock in pieces.

Continued on page 48



Door Lock Encyclopedia

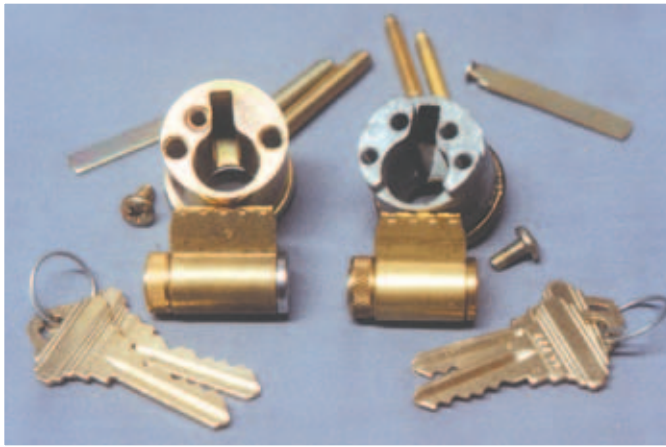
The ability to remove a lock from a door, disassemble the mechanism, and remove the lock cylinder for service is not always a simple straightforward task.

[CLICK HERE TO LEARN MORE](#)

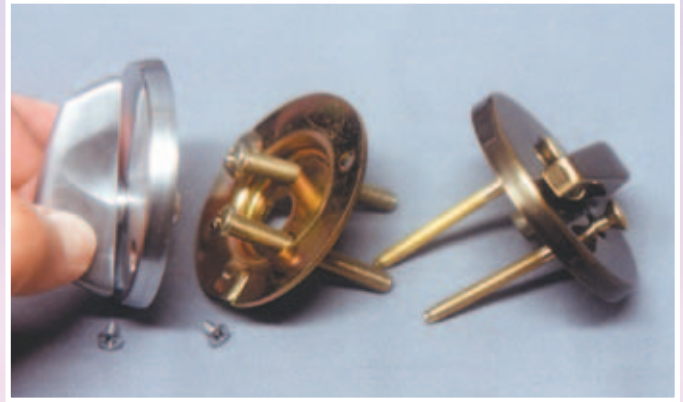
#DLE



Continued from page 45



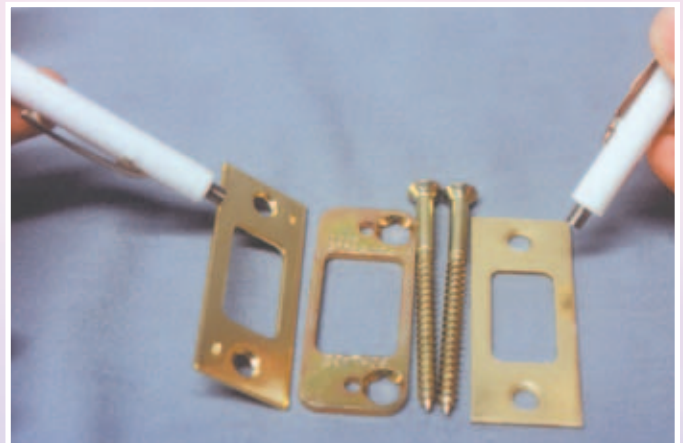
7. The cylinders removed.



8. A separate mounting plate and thumb-turn piece is used.



9. The mounting screw hole location is shifted slightly higher.



10. The two-layer strike plate.

of the earlier Grade 3 versions of the BC160, you may find that the thumb-turn piece itself is virtually identical in shape to the B160 thumb-turn. The screw arrangement remains the same, though, on both the Grade 3 and Grade 2 versions of the BC160.

The inside is where the major changes take place. *Photograph 5*, shows a “within the door” view of the lock’s internals. At this distance, the size difference isn’t obvious, but the mounting screws are larger in diameter for the BC160 deadbolt lock. With the lock in pieces, *photograph 6*, shows that difference much clearer, plus a few other interior part differences.

The mounting screws for the BC160 (left) are 1/4 inch steel screws, while the B160 screws are #10 steel (right) and nearly half as thick. The hole sizes (and locations) in the cylinder housings also identify the difference in the mounting screws. Just above the cylinder housings are the cylinder rings with the ring inserts inside them. Notice the BC160 ring insert is solid, while the B160 insert has a number of hollow spaces within

the casting. The solid insert makes the newer lock feel a lot heavier and stronger. They both are still adaptable to either a 1-1/2 inch diameter crossbore hole or 2-1/8 inch diameter hole with the adapter ring.

With the cylinders removed in *photograph 7*, you can see the newer BC160 comes with a six-pin chamber drilled cylinder. It can be converted to five-pin by leaving the last chamber empty. The old style housing came standard with a five pin chamber cylinder, but was convertible to the six pin chamber variety if you replaced the standard lock cylinder. The (self-tapping) screw that secures the cylinder must be switched from the right side to the left side-mounting hole.

The inside (for the BC160) requires a separate mounting plate, beside the inside thumb-turn piece. *Photograph 8*, shows the two-part assembly for the BC160 on the left and the single piece thumb-turn/mounting plate used on the older B160 locks. The earlier BC160 locks had two parts also, but used a thumb-turn shaped identically to the old B160

thumb-turns. A new ergonomic design thumb piece (shown) is now used. You can see the larger diameter mounting screws that go through the mounting plate. Since the thumb-turn is attached separately, it is attached to the mounting plate with two small screws toward the bottom of the thumb-turn piece.

The switch to larger diameter mounting screws affected more than just the mounting screws. *Photograph 9*, gives a clearer idea as to what else was affected. Because the mounting screws were so close to the outside edges of the lock cylinder housing, making the diameter larger required that the hole location be shifted slightly higher. Changing the hole location affected both the through holes in the latch bolt and the through holes for the inside mounting plate.

Both sets of holes had to be shifted higher, too. This has an affect on part compatibility. The holes for the newer BC100 bolts have both a larger diameter hole, but also slightly elongated hole. The diameter is obviously larger to account for the

Continued on page 50

Continued from page 48

thicker screws. The hole was elongated to make it backwards compatible with older B100 locks. The old style latch bolts cannot be used with the newer BC100 locks.

Making a Grade 2 Lock

The earlier Grade 3 and newer Grade 2, BC100 locks are nearly identical in outward appearance of the various parts. A number of material changes were made in certain critical parts to upgrade the lock to a Grade 2 standard.

The two-layer strike plate is shown in *photograph 10*. Even with the B100 line, the strike plate was made up of two parts: a thicker inside reinforcing plate that is secured into the door frame with two 3" long screws; and a thinner outer plate which matched the lock's finish and was held on top with two 3/4 inch length screws. The magnets in the picture show that the new outer plate for BC100 locks is now steel with brass plating, as opposed to the older style that is merely brass and not as strong. The

steel plate on the left is picked up by the magnet while the brass plate on the right is not. The letter "S" is stamped into the steel plate, which I presume stands for "Steel". I believe that the B100 locks in the chrome finishes previously came with steel plates. They also had been stamped with the letter "S".

The Grade 2 locks also have steel faceplates for the front face of the latch bolts compared to the older versions with brass faceplates. There is also a steel faceplate insert on the front face of the lock cylinder housing, where there was no other protection in that part previously. This should make it more difficult for someone to try and drill out the mounting screws when the lock is installed on a door.

Schlage's BC100 Line Accepts Interchangeable Core

Besides the full-size conventional cylinders that worked with the B100 line, the BC100 line has versions that accept interchangeable cores. One version accepts Best-style or Small

Format Interchangeable Core (SFIC), and another takes Schlage's Full-Size Interchangeable Core. The locks are available less cylinder in all three formats. *Photograph 11*, shows a full-size (or large format) IC lock at the left and an SFIC version at the right. The magnet sticking to the latch bolt's faceplate, for the lock at the left, shows that these locks have the steel faceplates.

Distinguishing a Grade 3 and Grade 2 BC100 lock might be difficult because of the strong physical resemblance between them. Except for some of the thumb-turns, there are no obvious appearance differences that I can think of between the two lock grade versions. Using a magnet on the latch bolt face plate or the lock cylinder housing to detect the steel insert, or even the strike plate might be a good way to tell whether you have the Grade 3 or Grade 2 lock.

Except for one, all cylinder versions of the BC100 line used the standard detachable tailpieces that have previously been used with the B100



11. A full-size IC lock at the left and an SFIC version at the right.



12. Inside view of lock components.



13. The large format I-Core removed and exposing the inside of the housing cavity.



14. This one uses fixed drive pins.

line. The exception was the one that took the large format Schlage IC cylinder. It had a tailpiece that didn't have the lazy cam action. That cam was fixed to the back of the drive unit that transferred motion from the IC cylinder to the latch bolt. It also was a sectioned breakaway tailpiece. *Photograph 12*, shows the inside view of the connected parts of this version of the lock. I'm not sure how clear it will be to tell, but the tailpiece is held fixed by something that vaguely resembles a cotter pin. You may be able to see the lines identifying the breakaway sections of the tailpiece.

Because this lock lacks the lazy action tailpiece of the others, that free movement is created in another way. *Photograph 13*, shows the large format I-Core removed and exposing the inside of the housing cavity. Schlage large format housings typically have a part that mates with the cylinder cap retaining pin, as a means of driving the motion of the lock. In this case there is a part that is pushed by that pin when the plug is rotated. The lazy action normally created by the tailpiece is recreated by the gap of space before the pin engages this part in either clockwise or counterclockwise motion. The lazy action of the tail piece or this

alternate design allows inside thumb-turn or key operation to move the bolt without having to also rotate the outside cylinder plug. I thought it was a clever bit of engineering.

The small format IC version of the lock did not use the alternate drive system shown for the large format IC lock. It still uses the detachable lazy action tailpiece. The I-Core has been removed in *photograph 14*. Unlike some SFIC housings, this one uses fixed drive pins. You don't have to use adapter tailpieces if you switch back and forth between 6 or 7 pin I-Cores. This version of the lock is a good option if you want to have SFIC compatibility with other lock hardware; whether you are using Schlage's SFIC cores, or any other Best-compatible core.

The Double Cylinder Difference

The differences between the double cylinder locks (B162 compared to BC162) are mostly the same as differences in the single cylinder (B160 to BC160) versions. *Photograph 15*, shows an inside the door view of the inner workings of a BC162 lock. The operation and motion is pretty much the same as the B162. Only the material

and physical appearances previously identified with the BC160 locks are different. There is a difference, however, on the inside cylinder side of the lock. The inside cylinder view is shown in *photograph 16*. On the B162, you would have exposed screws on the inside. The BC162 is designed to conceal the screws. After the mounting screws are fully tightened, a detachable scalp is pressed into place to cover and conceal the heads of the screws. This scalp must be removed to gain access to the screws for screw removal.

Key Control and Security Options

Besides the lock cylinder format options, Schlage has a number of options when it comes to key control or pick resistance. In addition to conventional pin tumbler design (IC or not), and non-restricted keys, Schlage has key control and security options under the names Everest and Primus. Primus is a high security variation of a standard Schlage pin tumbler lock cylinder. The additional feature on the lock is a sidebar and finger (side) pins that are positioned and operated by side millings on the Primus key. Primus offers both key control and high



How To Re-Key Cylinders

This software simplifies the process of re-keying various types of cylinders.

[CLICK HERE TO LEARN MORE](#)



#HT - RKC1

security. Schlage's newest key control product line is known as Everest.

The basic concept of Everest can be seen in *photograph 17*. A cutaway Everest lock cylinder shows the check pin that separately locks the plug into the shell. A specially cut key with

downwardly cut milling enters the keyway, and the raised height of the key surface (just past the deeply cut area in the middle of the key) lifts the check pin to allow the key to operate the lock. That presumes that the main biting pattern of the key is also correct. This is the basic layout of the large or full size

Everest format. This is available in the BC100 line in the conventional style lock cylinder or the Schlage full-size IC format. A modified variation of Everest is used in Best-style or small format I-Cores and their keys. The check pin is nearer to the face of the core, and the high key groove that lifts the pin is closer to the bow of the key.

Although all the Everest keys can be considered patented keys, there are basically two versions: open and restricted. In Schlage Everest full size format, the Everest C family of keyways is open, while the Everest D family of keyways is restricted. Everest small format (SFIC) is only available in the restricted Everest B family of keyways.


Final Thoughts

Schlage is classifying the BC100 line as commercial. If you go with the Everest keyways (open or restricted), you should not find the identical product sold through the large mass retailers, like Home Depot and such. Using the Everest open keyways should pretty much keep lock rekeying and servicing (plus key duplication) limited to security professionals, but it wouldn't be true key control the way most of us would think of the term. To do that, you should go with the Everest restricted keyways.

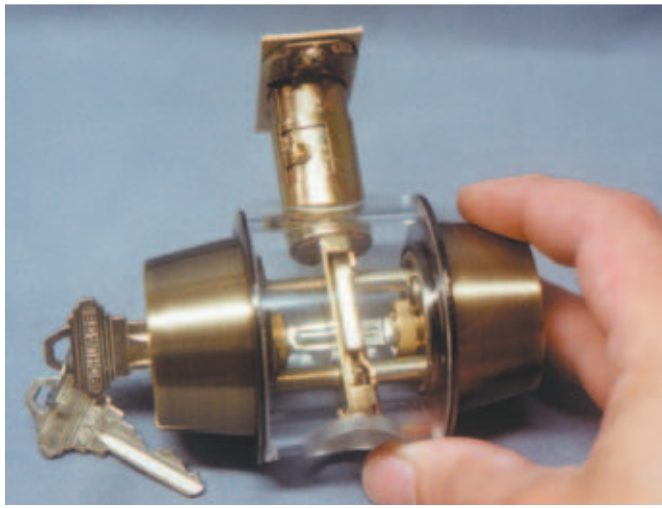
The BC100 line is a serious improvement over the B100 line, but it is still not Schlage's highest security line of deadbolt locks. If you are looking for something in that category, consider the B600, B700 or B800 lines.

I know some locksmiths have a gripe with the insubstantial "feel" of the B100 latch bolts. Although upgraded, the bolt will still have the same feel. I've been told that somewhere in the future, the BC100 bolt may be improved a bit more. I know part of the feel has to do with it being an adjustable bolt. I'm not sure what changes would be made to make the bolt "feel" more substantial, but I look forward to the possibility.

For more information, call Schlage at 800/847-1864. Find Schlage online at: www.schlage.com

My Internet address is <http://home.earthlink.net/~lockwriter>. There you will find the Lockwriter Home Page. I will post any additions or corrections to my technical articles on the linked page: "Tech Article Addendum". 

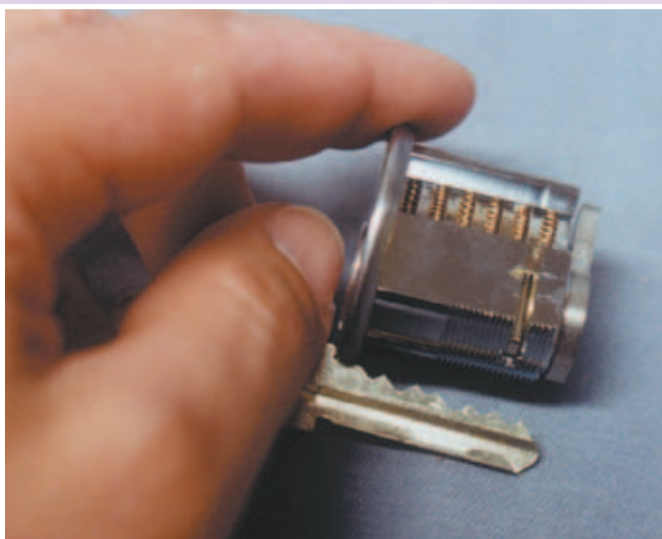
15. An inside the door view of the inner workings of a BC162 lock.



16. The BC162 is designed to conceal the screws.



17. A cutaway Everest cylinder shows the check pin that locks the plug into the shell.



ADA Exit Device Concerns

How to overcome common accessibility issues.

by Don Kirby • Manager, Product Marketing • DORMA Architectural Hardware

It is no secret that the Americans with Disabilities Act (ADA) has had a tremendous effect on the building industry. Everyone from architects to locksmiths have shouldered the responsibility of making “places of public accommodation” accessible to people with disabilities.

Exit device manufacturers have developed a variety of products that appropriately addresses the intent of ADA. Nonetheless, actually meeting the expectations of ADA in the field is no simple task.

Predominantly, ANSI’s A117.1 is used by the industry as the standard used to quantify issues relating to ADA compliance. In that standard there are three major areas of concern with exit devices in relationship to accessibility guidelines: (1) grasping the pull side of exit device trim, (2) contact with surface vertical rods and latches at the bottom of a door and (3) protrusion of exit devices into what is defined as the “clear area” of an opening.

has become almost universal in public buildings.

Though lever exit device trim complies with accessibility requirements, its use poses other problems. For example, it is easier to vandalize than a knob. When locked, lever trim typically becomes rigid. In this mode, vandals can simply apply a great deal of torque to the lever — forcing it up or down and causing damage to the exit device or trim itself.

Two options are available to thwart vandalism: free-wheeling and break-away or clutch-style levers. The free-wheeling lever allows an exit device to be securely locked, while the handle is still able to rotate with minimal resistance. This free rotation reduces the temptation and opportunity for vandals to apply damage, as they can on a rigid lever. In similar fashion, the break-away or clutch lever, when locked, provides for handle movement, but offers resistance until the force exceeds a predetermined value. As torque is applied to the locked lever, it will “break away” and rotate 45 to 50 degrees from its normal horizontal position until it contacts a positive stop, without incurring any damage. When in the less horizontal “break-away” position, the amount of damaging torque that may be easily applied to the trim and exit device mechanism is greatly reduced.

latches protrude from the base of a door and can create a trap. Other mobility aids such as walkers and crutches can also come into contact with surface vertical rods or latches, hindering a disabled person’s ability to exit freely.

Furthermore, prolonged contact between bottom vertical rods and latches and wheelchairs, walkers or other mobility aids may cause serious damage and operational problems to the device. This could create additional security, life safety and accessibility concerns.

A modification of the standard surface vertical rod exit device is the less-bottom-rod option. Easy to install, this variation addresses the intent of barrier-free accessibility since the lower rod and latch are completely deleted, leaving nothing to obstruct the smooth bottom face of the door.

Concealed-vertical-rod exit devices are another option. These conceal the top and bottom rod and latch mechanisms within the thickness of the door. Again, the concealed-vertical-rod addresses the intent of barrier-free access by providing a smooth, uninterrupted bottom door face. Concealed-rod devices tend to be more expensive to purchase, install, adjust and maintain because of additional door preparation and inaccessibility of the hardware components.

Finally, several manufacturers offer a bottom-rod-and-latch deflector which wraps around the lower edge of a door, concealing and protecting the bottom rod and latch. However, the deflector causes a significant protrusion from the bottom of the door and does not provide a surface completely flush with the door. In addition, this modification is considerably less aesthetically pleasing than the above-mentioned options and must be purchased and installed at an additional cost. If a door must be made barrier free immediately, and there is no time for retrofitting or replacement of the current door or hardware, a

Q What is the compliance issue with grasping the pull side trim on an exit device? What are the options?

Until the passage of ADA, traditional knob or thumbpiece trim was used in almost every publicly accessed building. Their simple installation and cost efficiency made them the frequent choice of builders. However, with the introduction of ADA, pull side operating trim on accessible doors requires easy operation with one hand without any tight grasping or twisting.

Lever trim for exit devices is the obvious solution. It provides simple operation that requires no grasping while still offering the necessary locking capability. As compliance with accessibility guidelines has developed into a driving factor in construction, the use of exit devices with lever trim

Q What is the issue with surface vertical rods and latches in compliance with barrier-free guidelines, and what is being done to alleviate this problem?

Surface vertical rods and latches are another accessibility consideration. ANSI A117.1 suggests that the bottom 12” of a door must be free from obstructions to allow the door to be opened by the footrest of a wheelchair without creating a trap or hazard. Conventional surface vertical rods and

deflector can be added, assuming it meets with locally established accessibility guidelines.

Code requirements and security needs also come into play. For an interior door with a fire rating up to 1-1/2 hours, a less-bottom-rod device may be ideal. Because security may be compromised with the removal of the bottom rod and latch, this configuration is suited for interior doors. Where security is a primary concern — such as on an exterior door or in a situation where a three-hour fire rating is necessary — a standard concealed vertical-rod exit device may be the best choice. The device creates no accessibility problems, is available with up to a three-hour fire rating and with its top and bottom latching capability, provides a high degree of security.

Q What is “clear area” and why is it important to exit device installers?

Clear area is simply the maximum distance from the face of the door to the face of the door stop. ADA explains only that the clear area of an opening must be wide enough to be accessible to persons with disabilities. The generally referred to quantification of clear area is ANSI A117.1, which identifies accessible clear area as an opening of 32” when the door is opened 90°.

It is important to note however, that this is the ANSI standard. Some municipalities have established more stringent measurements as their clear area. These stricter guidelines must be followed in the localities that have adopted them. The lesson: learn the codes and measure closely.

Conclusion

Under the auspices of ADA, the building industry has seen tremendous change in the construction of buildings meant to be places of public accommodation. Everyone involved with the selection of an exit device must take into account overall function as well as adherence to accessibility requirements.

Through careful consideration and effort however, entryways have become increasingly useful to all segments of the population. They now provide accessibility for all persons in public building without compromising their level of performance. This is truly a welcome progression. **RL**

NLAA One Year Membership



The big problem in automotive locksmithing is the tremendous amount of information you need to have at your fingertips.

[CLICK HERE TO LEARN MORE](#)



BEGINNER'S CORNER

The Door Guardian

by
**Raymond
Moreno**

This month we will be looking at a relatively new product that will help line your pockets with that ever elusive, always coveted, cash. And what is this little gizmo I'm talking about? Well, it's a nice security product called The Door Guardian, made by Meranto Technology Inc..

The genius behind this little contraption is none other than Kevin Wiseburg. A few years ago he was a contestant on the Wheel of Fortune and described himself as an "importer and exporter." Does that mean he's an entrepreneur? Kevin also happens to be the owner of a home security company called, Meranto Technology Inc.. Well, to make a long story short, he came-up with a neat little product that will help to childproof a door or privatize an office, a bedroom, or an apartment.

Recently, I received a call from an office manager of a large apartment complex. It seems that one of the new tenants did not feel safe with the single deadbolt that was on his door. He wanted multiple deadbolts, at least two more. That placed me in an awkward position. Should I comply with his request and cheddar cheese his door by installing two more deadbolts? If I

did comply with his request, would I be violating any codes? I told the manager that I would need to look through my catalogues, research the options and would call him back the next day.

After I hung-up with the manager, I made a quick call to Allen, at the San Francisco Tech Code Division. Instead of going by hearsay or guessing, I went straight to the horse's mouth. I found-out, after talking with Allen, that the State Fire Marshall did allow multiple deadbolts on an apartment door. But there was a catch; they could not be mounted any higher than 48" from the floor. Now I had to figure-out the best hardware to place on the customer's door to meet his needs, and satisfy his need to "feel safe."

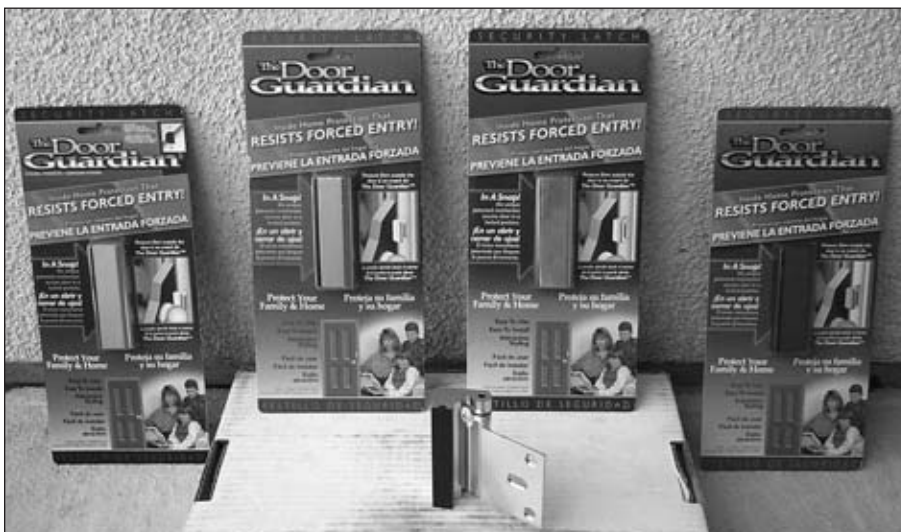
I later called Jake Jakubowski for some information. I knew he had just returned home from promoting his new floor safe book "15-Minute Safe Opening Technique" at the Baltimore convention. I was hoping he might have come across something new that I could try on the customer's door. As luck would have it, he mentioned the Door Guardian. After acquiring a few units and showing them to the office manager and the tenant, they were

impressed. Liking its function and looks they gave me the go ahead to install it. As a matter of fact, I ended-up installing all the Door Guardian's I had in my possession.

The packaging is brightly colored that is sure to catch the customer's eye. (See *photograph 1.*) It has a hole to hang it on a display hook, installation instructions, is very easy to open, and gives the customer a good view of what the product looks like. Now if you're a mobile locksmith, this probably doesn't mean anything to you. But, if you own a retail store, you can see the advantages of this. *Photograph 2*, shows a close-up of the unit.

The Door Guardian's are made of aluminum and come in four different finishes: brass, antique brass, brushed aluminum and anodized. (See *photograph 3.*) Clear instructions on how to operate the unit are on the back of the packaging. (See *photograph 4.*)

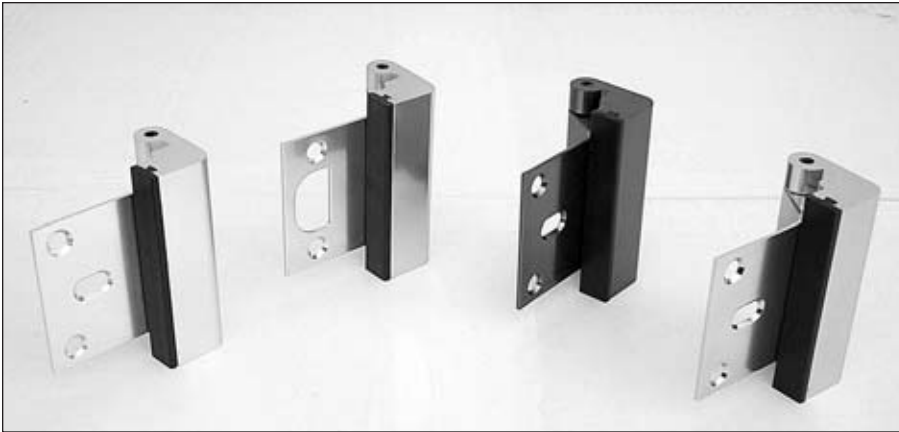
This is actually a well thought-out, spring-activated design. You lock the unit by exerting deliberate closing pressure on the moving portion of the Door Guardian, which will give an audible snapping sound when in the secured position. The paddle locks into a channel on the stationary



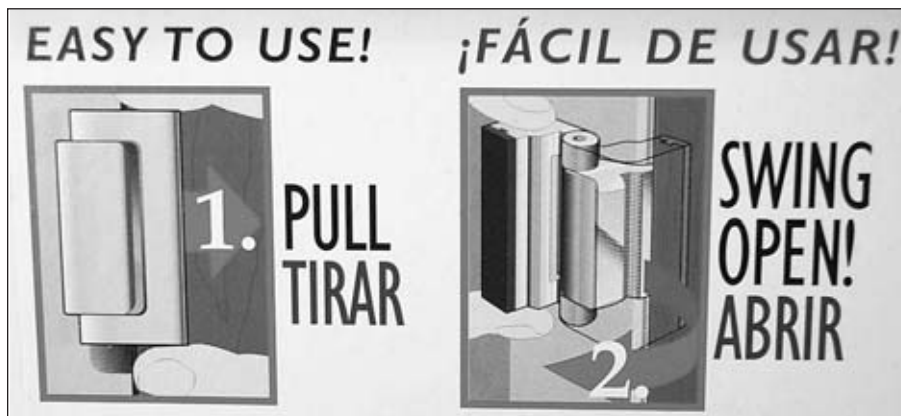
1. The packaging is very bright-colored.



2. The Door Guardian.



3. The four different finishes.



4. Operating instructions are on the back of the package.

mortise plate. (See photograph 5.) To open the unit, you must pull out against the spring pressure from the locking channel, and swing it to the open position.

About the only concern I would have is if you are installing it on the door of an elderly person, or someone who would not be able to grasp the device with enough strength to pull it open. In this case, I would not install it and I would opt for an alternate way of securing the door from the inside.

There's another style of the Door Guardian that I wanted to show you. It is retrofitted into a standard-sized strike plate mortise. (See photograph 6.) All you would have to do is remove the old strike plate and reinstall the new one using the 3" screws. Now let's go see the installation process.

The very first step is to ensure that there is at least a 1/16" clearance between the door and the frame. The reason is, the unit can also be surface mounted. This is a nice selling factor to the customer, but here's my personal opinion on this topic. If your customer wants you to mount the unit, I would choose to do a type of installation

NSO One Year Membership



Free when
you join NSO

To make big profits
in safe work with no
hassles...you need
information!

CLICK HERE TO LEARN MORE





5. The channel where the moving portion drops in to secure.



6. This Door Guardian will retrofit into an existing strike plate mortise.



7. Place the Door Guardian in its proper position and mark the edges.



8. Chisel-out the wood.



9. Center punch the pilot holes.



10. Drill the pilot holes.

Safe Deposit Box Service



CLICK HERE TO LEARN MORE



#SDBS - 1

that most would usually avoid. To achieve this, I would automatically mortise the unit into place. This will accomplish a few things.

1. It will justify my installation charge.
2. It will show the customer a special skill that I possess.
3. It will look much more professional.

To begin the installation, first mark your location. Here we see that I have already marked the area around the Door Guardian with a chisel. (See *photograph 7.*) The instructions specifically state to insert the 3/4" self-tapping screw into the center slot of the unit until it is firm on the frame. Then open and close the door a few times to ensure that the unit functions properly. If it does not, then loosen the screw and slide the unit forward or backwards until it functions properly.

Here we can see the chisel going to work on the wood. As a little tip,

once you've outlined the edges of the Door Guardian with a chisel, go to the edge of the door and start to chisel from the edge of the door inward. Not up and down. (See *photograph 8.*) Even though you will probably be going against the grain of the wood, the wood you cut will sometimes come out as a solid piece and be the same depth all the way through, instead of being all lop-sided and of varying depths.

Next center-punch the places where the screws will go. (See *photograph 9.*) Then drill the pilot holes for the screws. (See *photograph 10.*) Once this is done install the 3" screws supplied with the unit in place. (See *photograph 11.*)

The completed installation can be seen in *photograph 12.* The Door Guardian is really easy to install and should take no longer than 15 to 20 minutes to do so.



11. Install the 3" screws supplied.



12. A completed installation.

The Door Guardian in the locked and secured position can be seen in *photograph 13*.

This is a very nice looking product that will take the place of those



13. The Door Guardian in the locked and secured position.

security chains and other style security latches. Another little feature that I encountered with this unit is that you cannot accidentally lock yourself out. It will not swing into the locked position with a sudden gust of wind, or a minor earthquake. (Hey, I am from San Francisco!)

That's about it for this month. The Door Guardian lists for \$29.00 dollars, and by the time you get to read this article, Clark Security will be a distributor of this Door Guardian. But if you are interested in being a distributor yourself, you can contact Meranto Technology, Inc., and order straight from them. As an incentive, if you order 12 or more units from Meranto Technology Inc., you'll receive a free wooden display with the Door Guardian installed. So you're in store customers can have hands on exposure with this merchandise.

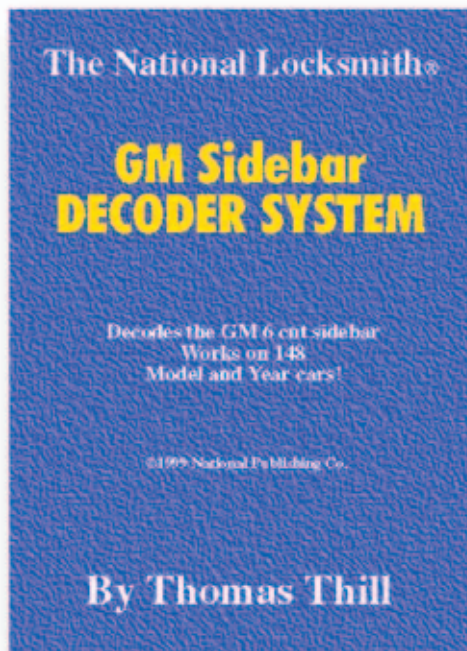
For more information contact:

*Meranto Technology Inc.
45 Crockford Blvd.
Scarborough, Ontario
M1R 3B7*

Phone: 800-704-7037

Fax: (416) 757-0017

*Circle 222 on Rapid Reply. **TRL***



GM Sidebar Lock Decoder System

Tom Thill, the author of a new book, has invented an amazing new way to make keys for six cut GM Sidebar Locks.

CLICK HERE TO LEARN MORE



The UGHTER Side

DIRTFT



by
**Sara
Probasco**

Years ago, at a New Mexico Locksmith Convention, Don picked up a little bright orange pin-on "button" with the letters "DIRTFT" ("Do It Right The First Time") printed on it in black. It was a "gimmie" from Clark Security Products. The concept was clever, in that almost everyone who saw one pinned on someone's shirt would ask what the letters meant. Theoretically, you get hundreds of these circulating around a convention, and pretty soon everyone is gently reminded to be more accurate. Hopefully, they take the concept home with them and put it into practice there.

Don still has his button and wears it from time to time around our store. He dreams of indoctrinating the entire general public with its message, but he'd settle for just impressing those of us who work there with the need for accuracy, especially when it comes to communication!

Was it Shakespeare who wrote the truism, "Many's the slip 'twixt the tongue and the lip" (or was that "...twixt the ear and the pen")? At any rate, it's never truer than when a customer is giving directions to a site, or describing work to be done over the telephone! Of course, this problem is grossly compounded when the person taking the message doesn't have his brain in gear.

Did you ever play the game of "Gossip," when you were a kid? Everybody stands or sits in a line, and the fellow at one end is given a phrase, which is then whispered to the next person, and the next, and on down the line until the last person says, out loud, what the message is. It never fails: the final message bears little resemblance to the original one. (Try it, sometime. You'll be amazed.) We get a lot of this around our store, when it comes to verbal work orders that are "handed down" from one person to another.

"It's up in the Hill Country. Keys locked up in a lady's truck. A guy named Henry called." One of our guys passed the message to Don. Nothing unusual, Don thought. There's a lot of country in south Texas, and people frequently lock

keys in their pick-ups. Taking his copy of the work order, on which appeared abbreviated directions to the job site, Don leapt into his gleaming service van and started out to "save the day" for yet another stranded motorist.

While waiting to enter traffic from our parking lot, he glanced at the work order. The handwriting was none too clear, but he noted which highway to take out of town and headed in that direction.

"Take Hwy 55," it said. "Turn right on 337. Sign says Devil Ranch. That's Rim Road."

No distances were given and no towns named, but in this part of the world, you can drive half a day without running across a town. With early-morning logic, Don assumed 337 was a little-known county road also called Rim Road that turned off a little way up 55, and that it would take him right to Devil Ranch and the vehicle in question. But, then, we all know where assumptions get us, don't we!

At least part of his interpretation was right. It was up Highway 55.

After driving into the edge of Hill Country with no sign of "337," Don decided maybe he'd better stop and call for better directions. He glanced at the customer's phone number on the form and punched it in. A recording responded, saying he had dialed a number that had either been disconnected or was not a working number, and to please check the number and dial again.

He dialed again and got the same message.

He decided to call the store before he got deeper into the hills and out of range with his mobile phone.

"Just how far up Highway 55 is this 337 I'm supposed to turn onto?" he asked. "I haven't seen a sign or anything."

"I'm not sure, but the guy who called said it was a ways back in there. I'm guessing fifteen miles or so. Why don't you call him and find out?"

"I tried."

"Well, he'll probably call you in a few minutes, anyhow, if you don't get there pretty soon. I gave him your truck phone number, just in case: 317-3915, right?"

"That's not my truck number. It's my cell-phone number."

"Whatever."

"I left my cell phone there with you."

There was a moment of silence.

"Hmmm," he finally responded. "Well that explains it. I must have put it in my tool kit. You know, I kept wondering whose phone I heard ringing. Oh, that's funny," he chuckled.

"Hilarious," Don replied.

"If I were you, I'd try to reach the guy again at his number."

"It's no use. I keep getting a recording that it's not a valid number."

There was another moment of silence on the line.

"Hello?" Don said loudly. "Are you still there? Can you hear me?"

"Yeah. It just dawned on me... Did I give you a 591 prefix on that number?"

"Yeah. Why?"

"I may have written it down wrong. Seems like it might have been 597, instead."

"Oh, great! Anything else I need to double-check on?" Don's eyes scanned the rest of the information on the page.

"I don't think so."

"What's this?" Don said, his voice beginning to vibrate a bit. "At the top, you wrote 'Keys locked in pick-up,' but farther down, you list the vehicle as a '95 Buick La Sabre!'"

"So?"

"So Buick doesn't make a La Sabre pick-up!" Don had begun to shout, by now.

"Hey, I just put down what the guy said."

"Well, next time, put your mind in gear before you put your pencil in motion."

When Don finally reached the turn-off, there was no sign for Devil Ranch or Rim Road. However, a few miles up Farm-to-Market-Road 337, Don saw a sign for Rim ROCK Road, and another for Devil's CANYON Ranch. Before he could make the turn to the left, he saw a man riding a Craftsman tractor-mower coming toward the intersection from the right. He waved Don to a stop and introduced himself as Henry, the man who had called about getting keys out of his friend's '95 Buick La Sabre TRUNK. Turning around, he led Don to his ranch.

"He was a really nice guy," Don said later, when telling me about his day. "Has a beautiful place up there - lots of space. I don't think he's bothered much by drop-in guests. He even introduced me to his favorite pet. A bit unusual, I must say."

"What? Introducing you to his pet?"

"No, the pet, itself."

"Why? What was it, a pig? A snake?"

"No." Don's eyes twinkled. "An Emu named Elvis. You should have seen that bird dance when Henry pulled out his harmonica and cut loose with 'You Ain't Nothing But a Hound Dog!'" **TNL**

Flat Rate Manual

The
National
Locksmith.

Flat Rate Manual
For Locksmiths

Safe Work • Car Opening • Key Cutting • Rekeying • Installations •
Domestic Autos • Code Keys • Duplikey Keys • Masterkey Systems •
Commercial • Heavy-duty Locks • Imported Autos • Locks •
Safe Work • Car Opening • Key Cutting • Rekeying • Installations •
Domestic Autos • Code Keys • Duplikey Keys • Masterkey Systems •
Commercial • Heavy-duty Locks • Imported Autos • Locks •
Safe Work • Car Opening • Key Cutting • Rekeying • Installations •
Domestic Autos • Code Keys • Duplikey Keys • Masterkey Systems •

By Jack R. Potts, CML

CLICK HERE TO LEARN MORE

#FRM - 1

Antique Padlocks

The National Locksmith

Guide to:

Antique Padlocks



by Jack Roberts, CML

Finally there is a book to give you all the information you need about old interesting locks.

CLICK HERE TO LEARN MORE

#PAD - 1

Quick Entry

UPDATE

by
Steve
Young



TOYOTA AND LEXUS SPORT UTILITY VEHICLES

The sport utility craze seems to be out of control. The American SUV buyer now has a choice of over forty different Sport Utility Vehicles. Everyone from Kia to Mercedes has gotten into the game of selling SUV's. Toyota/Lexus is one of the leaders in the SUV craze. They have seven different SUV models to choose from and at least one more is on the way before the end of this year.

Sport Utility Vehicles Manufactured by Toyota/Lexus:

Toyota 4Runner; Toyota Sequoia - built on the same platform as the Tundra; Toyota Highlander; Toyota Land Cruiser; Toyota Matrix - to be introduced late in 2001; Lexus RX-300 - built on the same platform as the Highlander; Lexus LX-470 - built on the same platform as the Land Cruiser.

Of these seven vehicles, only three even attempt to look anything like trucks. The other four are essentially Mutant Mini-Vans (MMV's) in a variety of sizes. (See photographs 1.)

The first is the Lexus RX-300 that was introduced in 1998. A Toyota version of the RX-300, the Highlander, was introduced this year along with a smaller one known as the RAV-4. Later this year, Toyota plans to introduce a larger MMV SUV to be called the Matrix.

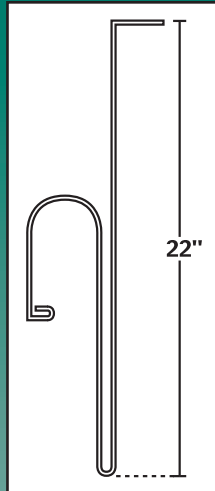
All of these SUV's and MMV's with the exception of the 4Runner have bicycle-style cables inside of the doors in place of conventional linkage rods. These cables effectively eliminate the

1. Toyota RAV-4, Lexus RX-300 and Toyota Matrix.





2. Bicycle-style cables are used inside the door of the new Toyota/Lexus products in place of traditional linkage rods.



A. The TT-1015 tool.



3. Notice that on all the vehicles, the tool is inserted as far forward in the door as possible.



4. Lexus RX-300, Toyota Sequoia and Toyota Land Cruiser interior. In some cases the tool must be angled sharply in order to reach the inside lock control rocker.

Quick Reference Guide

Vehicles:

Toyota Land Cruiser 1999 - 2001
Toyota RAV-4 2001
Toyota Sequoia 2001
Toyota Highlander
Toyota Matrix
Lexus RX-300
Lexus LX-470

**Direction of Turn
(passenger side):**
Counter Clockwise

Tool:
TT-1015 or Jiffy-Jak
Vehicle Entry System

Lock System:
Toyota Split-Tumbler lock system

Security System:
Optional transponder system

Code Series:
W0001 - W2000

Code Location:
Passenger side door lock

**Toyota Non-Transponder
Key Blank:**

Ilco: X174 or X211; EZ: TR40;
Jet: TR40-NP; Curtis: TR40

**Toyota Transponder
Key Blank:**
Ilco: TOY43AT4; Jet: TR47-PHT

use of traditional inside-the-door tools. (See photograph 2.)

These same Toyota SUV's and MMV's, can be unlocked with the TT-1015 (see illustration A) "Under-Window" tool. To unlock the RX-300, LX-470, Highlander, RAV-4, Land Cruiser or Matrix with the TT-1015 tool, begin by wedging open the base of the window as far forward as possible on the front door. Insert the tool into the door with the tip of the tool pointed to the rear of the vehicle. Once the upper bend of the tool is below the bottom of the window glass, flex and lift the tool so that the upper bend slides up the inner surface of the window glass. As soon as you are sure that the tool is in position to be pulled up on the inside of the door, stop and remove the wedges from the door. (See photograph 3.)

It is very important to remove the wedges prior to pulling the tool up on

the inside of the door. Failure to remove the wedges can result in breaking the window glass.


Once the tip of the tool is free of the inner weather-stripping, manipulate the tip of the tool until it makes contact with the inside lock control rocker, and push the rocker to the rear to unlock the door. (See photograph 4.)

The tip of the tool can also be used to operate the inside power door lock control on some models. For this operation you will need to push down on the rear portion of the power door lock control rocker. Unfortunately, if the vehicle is equipped with a factory-installed alarm system, the power door lock control will not operate if the alarm is active.

All Lexus products and some of the Toyota products are equipped with an alarm system that relocks the door as

quickly as you can unlock it. It may be necessary to have a second person on hand to open the door at the instant that you flip the lock control rocker into the unlocked position. The alarm reacts very quickly, but the door can be unlocked over and over again. Eventually, persistence and teamwork will pay off, and you will be able to open the door before it relocks.

The Jiffy-Jak Vehicle Entry System allows you to temporarily override the alarm system by holding the inside lock control rocker in the unlocked position. For that reason, the Jiffy-Jak is my first choice for unlocking Toyota/Lexus vehicles that are equipped with an alarm system.

For more information on the Jiffy-Jak system, visit our new web site at: www.jiffy-jak.com. Circle 201 on Rapid Reply. 



1. The Drill Doctor® is located in Ashland Oregon.

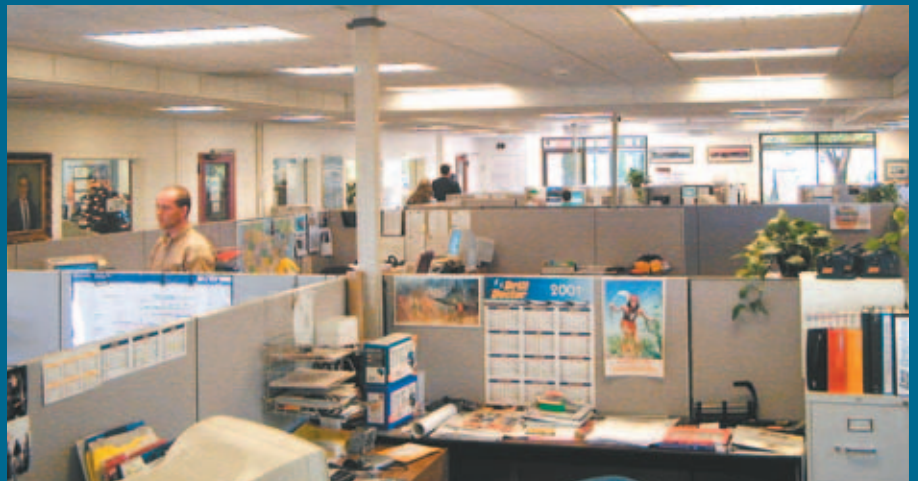
The Drill Doctor®

by Richard Allen Dickey

It was a nice, hot, sunny day in Jackson County, and I was on my way to the board store. My wife calls it that because they sell boards. You know, a place for building materials, tools, and even more tools. I call it heaven.

While I was making my way to the electrical department, I saw some unusual activity in the "tool" department. I just had to take a look. They had a small green machine on a table. When I got close enough, one of the people behind the table asked, "have you ever heard of the Drill Doctor®"? I responded like most people would. I said "No."

Well that was the beginning of a 20-minute conversation about drill bits, sharpening techniques and what the Drill Doctor® could do for me. I left the board store that day with a Drill Doctor 750 professional model in my hand and headed home to try it out. I never did get that electrical stuff I was after.



2. Their office space is very open and friendly.



3. The assembly line has plenty of room at each work station.

The Drill Doctor® is a product of Professional Tool Manufacturing LLC, located in Ashland Oregon. (See photograph 1.) After using one of their products, I really wanted to take a look at the company and tour their manufacturing facility. They are located just up the road, so I gave them a call and spoke with Randy. He arranged for a visit a few days later.

The first thing I noticed when I arrived was the office work areas. They were wide and open instead of the all too common six by eight cubicles. (See photograph 2.) The atmosphere was very friendly. After a short introduction and a bit of the company background, I got to see the assembly line.

The assembly line is located in a large, well lit area. (See photograph 3.) Each person on the line has plenty of room to do their part of the assembly. One of the interesting things about this assembly line is each person is responsible for checking the work of the person before them. They even have a procedure in a book at each station, detailing what to look for. This may sound like a waste of time to some, but it did let them go from six inspectors to only one.

Everything is tested at every step of the assembly process. Near the end of the assembly line, one person tests the actual operation of each machine before they go into a box. (See photograph 4.)

They currently have four different models of the Drill Doctor® to choose from with some really neat stuff in their research and development department. (See photograph 5.)

I am sure that you are wondering how these things work, so let me quickly describe the four models and then we can get down to the fun stuff.

The top of the line machine is the 750 Professional and sells for \$184.95



4. Each machine is tested before it is packaged for shipment.

on line. (See photograph 6.) For another \$15.00 you can get a hard case to go with it. The 750 is designed to sharpen everything from 3/32 to a full 3/4-inch. This includes your standard 118° bits, high performance 135° bits, split bits and masonry bits.

To cover this wide range of sizes, two chucks are included. The chucks are designed to hold the bit in perfect alignment during the sharpening process. This thing would be great when doing safe work.

The sharpening wheel is steel, embedded with industrial diamonds. (See photograph 7.) The life of the wheel will vary with the type and size of bits that are sharpened. I have been told to expect to sharpen between 100 and 200 bits before the wheel will need to be replaced.

The 750 is powered by a 110 Volt motor that requires 1.75 amps. That works out to about 200 watts. You can run this machine in your van using almost any inverter. 200 watts in nothing compared to your typical key machine.

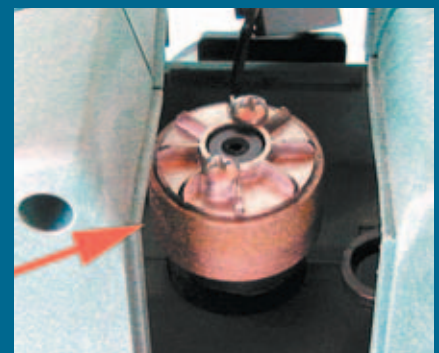
The model 500 sells for \$134.95 and is identical to the 750 with one exception. It only comes with one chuck. This means



5. There are four Drill Doctors® to choose from.



6. Two different chucks are supplied with the 750.



7. The grinding wheel is metal and is embedded with industrial diamonds.



8. A cutaway of the 250 gives you an idea of what goes on inside the machine.

that you can only sharpen 3/32 to 1/2-inch bits. You still get the option of sharpening 118° bits, high performance 135° bits, split bits and masonry bits. Again, this model would be great for any locksmith.



The model 250 uses the same motor as the 750 and 500. (See photographs 8.) However, you are only able to sharpen bits that use a 118° angle. It is also lacking the split point capability found in the 750 and 500. Without the features of the 500 and 750, you save a little money. The price of the 250 is \$99.95

The 250 is a great machine for home use, but having the ability to sharpen high performance 135° bits, split bits and masonry bits is to important to give up in our line of work. Remember, many of the bits used for hard plate have a design very similar to masonry bits and will require the 500 or 750 to sharpen properly.

The newest addition to the Drill Doctor® collection is the model 100. It is also the least expensive at \$39.95. (See photograph 9.) Although the 100 will sharpen bits from 3/32 to 1/2-inch, there are two major differences that make the model 100 unique from the others. First of all there is no motor. It is intended that you use a drill as its source of power.

The second major difference is the grinding wheel. It is not a diamond wheel like the others, it is basically a drum sander. The 100 comes with six sharpening drums. Five are aluminum oxide and the sixth is made of silicon carbide for sharpening masonry bits. The drums will not hold up to heavy use like the diamond will, but they are a lot less expensive. You can also purchase them just about anywhere. For forty bucks, I don't think you can beat it. Now lets look at how they work

The Model 750 has the most options, so I will use it to demonstrate. There are three steps to sharpen a standard bit. A fourth step is needed for split bits.

The first step is to identify the bit.

9. The model 100 uses a drill for power and sharpening drums instead of a grinding wheel.

The angle on the tip of the bit will be either 118° or 135°. To help determine the angle, the Drill Doctor® has two built in angle gauges. (See photograph 10.) By placing the tip of the bit into the two gauges, it is easy to tell if it is a 118° or 135° bit. In my case the bit is of the 118° variety. Depending on the angle of the bit, the machine will need to be adjusted to the proper angle. (See photograph 11.)

Step two is to align the bit for sharpening. There is a lever on the front of the machine that has the number "1" on it. (See photograph 12.) This lever sets the machine to the profile of the bit. Typically there is the standard, split tip and masonry.

When the lever is set to the proper position, take the chuck and loosen it so it will accept the bit that needs sharpening. (See photograph 13.) The head of the chuck turns counter clockwise to loosen and clockwise to tighten. The idea is to position the bit in the chuck so it will still move a little. Even though the bit is in the chuck, it still isn't aligned properly.

The chuck has two flat spots that will align with two notches in the lever in the front of the machine. Slide the chuck into the front of the machine until it is fully seated and hold it there through the rest of the alignment procedure. (See photograph 14.)

There is a flat button with a "2" on it that is part of the alignment process. Press the button and two pawls will separate and expose the tip stop. (See photograph 15.) Push the bit through the chuck until the tip of the bit touches the tip stop. Release the flat button and the two pawls will close on the bit. (See photograph 16.)



10. Bit identification is made easy with two built in gauges.



11. Angle adjustment is made here.



12. Adjustments for the type of bit used can be made on the front of the machine.

The odds are very good that the pawls will not grab the bit properly until some adjustment is made. In the left side of photograph 16, you can see that the pawls are not straight across from each other. By twisting the bit with your finger, the pawls will align themselves. This can be seen in the right side of the photograph.

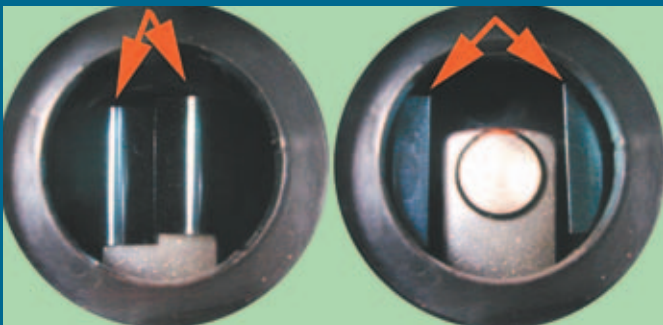
At this point the bit is aligned properly. The chuck should be



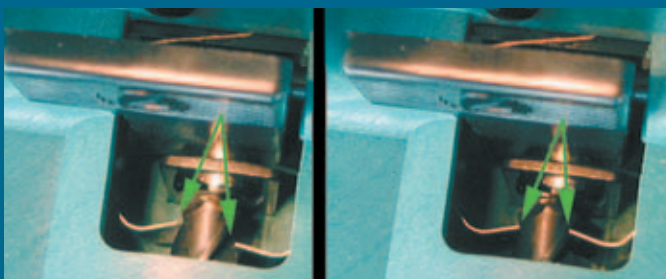
13. Each chuck has six jaws that hold the bit firmly in place.



14. The chuck is inserted into the front of the machine.



15. You can see the affects of pressing the flat button in this photograph.



16. As you turn the bit with your finger, the pawls will align themselves.

tightened before it is removed from the front of the machine. Now you have a perfectly aligned bit that is ready for sharpening.

Slide the chuck into the sharpening slot on the upper right side of the machine. (See photograph 17.) The chuck has a cam on it that will ride on a high spot on the machine. As you turn the chuck clockwise, while applying inward pressure, the chuck will move slightly in and out of the machine.

This motion will allow the sharpening wheel to touch the bit in just the right places for a perfect sharpening job. The chuck should be turned 180° at a time with a total of 10 to 20 full rotations, depending on bit size. Be sure to stop turning the chuck while it is on the high part of the cam. Don't stop turning the chuck while the bit is in contact with the cutting wheel. It will mess up your perfect sharpening job.

The last step is optional. It is called splitting the bit. Splitting the bit makes a finer point and this finer point allows the bit to start easier and prevents walking. While the bit is still in the chuck, slide the chuck into the left side of

the machine until it is fully seated. (See photograph 18.) Pull the chuck in the direction of the front of the machine and then release the chuck. This puts the first cut on the bit.

Pull the chuck from the side of the machine, rotate it 180° and slide it back in. Pull the chuck to the front of the machine and release the chuck. This makes the second cut on the bit. Remove the bit from the chuck and you are done. After you do a few, the whole process only takes about a minute.

There are two things I would like to point out before I call it a day. When a small bit is over-tightened in the chuck, the chuck jaws can twist slightly. If this happens it will cause a timing problem, which allows the bit to contact the grinding wheel at the wrong position. This problem is easy to detect and easier to correct.

Look into the end of the chuck. It will be easy to see the six metal jaws. The jaws will make a nice star shape when everything is correct. If the jaws look twisted, this is a sign of over-tightening. Loosen the chuck slightly and this will straighten the jaws.

The next problem is less obvious, but is easily fixed. Some bit manufacturers use a different twist per inch than other manufacturers. Since the bit alignment in the chuck is determined by the tip stop and the pawls that grab the bit on each side, a non-standard twist per inch will mess with the timing.

Remember I mentioned earlier that the timing determines where and when the bit touched the grind wheel. Well, the lever on the front of the machine can adjust this. Reposition the lever so the arrow points either a little above or a little

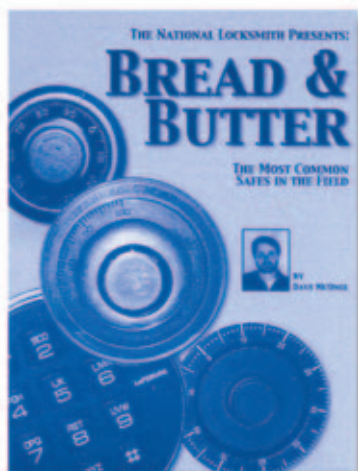
below, where it was pointing. (See photograph 19.) This is kind of like setting the timing on a car. Advancing does one thing while retarding the timing does another.

As you read this, Pro Tool Manufacturing is almost ready to release two special chucks. One will address the small



17. After the chuck is tightened, it is inserted into the right side of the machine for sharpening.

Dave McOmie on Safe Locks



Almost 300 pages of information, photographs and illustrations give you every scrap of information about a huge variety of safe locks.

CLICK HERE TO LEARN MORE



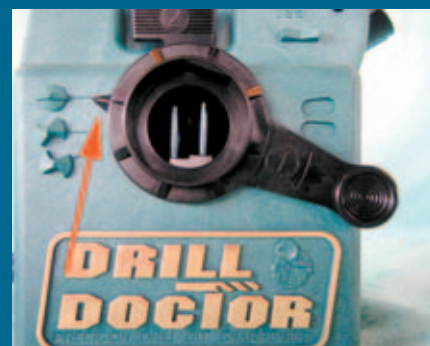
#DMSL - 1



18. The splitting is done when the chuck is pulled to the front of the machine.

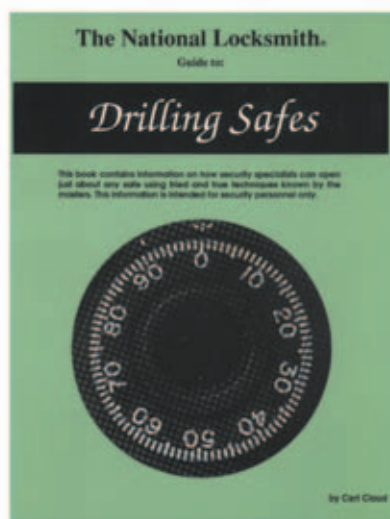
bit problem while the other will allow the sharpening of left-handed bits. That's right, those expensive left-hand bits, used to remove broken studs and screws. This special chuck will allow you to sharpen them on your Drill Doctor®.

Until next month, good luck with your drilling and may your trip to the board store be as rewarding as mine.



19. Adjustments can be made to compensate for nonstandard twists in nonstandard bits.

Drilling Safes



One of the most expert safemen in the country, Carl Cloud has written a very important book on safe opening.

CLICK HERE TO LEARN MORE



#DS - 1

MAJOR satisfaction



by Dale W. Libby, CMS

Not everyday do I work on Moslers, Meilinks, and Mas-Hamilton locks and safes. I recently purchased a locked Major safe that needed to be opened. One can purchase a locked safe fairly reasonably; especially after the customer hears what it costs to open the container. The safe in question is shown in *photograph 1*.

The handle was broken and the customer purchased the safe in the locked condition. I paid \$50.00 for the unit, exactly what the customer did. I always have a buyer in mind when I buy these small safes. This safe had a Major serial number plate on it. Directly above the plate was another safe plate. This one said Empire Safe Company on it.

In the right hand corner was another plate, which is usually seen on the inside door of a safe. This is shown in *photograph 2*. This plate had the information that this safe was a Major unit with a UL label, stating that this was a "Fire Resistant Safe Class 350 1 hour unit with a Relocking Device." To me, the safe



1 Major/Empire small 1-hour fire safe. The plastic opening handle is broken off.



2 UL/Major label stating "A fire resistant safe Class 350 1 hour unit with Relocking Device."

Continued from page 74

appeared to be a Meilink type safe. The size and the configuration of the dial and handle screamed Meilink.

Most small Meilink safes do not have a full size Sargent & Greenleaf lock present. They use the smaller 6709 for example, that is a hand change unit. After bringing the safe to my workplace, I got out a pencil and paper, preparing to manipulate the safe open. Usually an S&G lock is quite easy to manipulate and gives crisp and clear contact points, which are easy to register. I got hardly any readings from the drive wheel. Something was not right.

My first thought was to drill and punch the unit open with the standard Meilink trick. Drill over 2-1/2 inches from dial center to the left of the dial (towards the handle) and drill 5/8 inches down. I



3 Inside view of safe door. Surprise, there is a LaGuard 1800 combination lock and not an S&G.



4 Meilink trick would have worked. 2-1/2-inches to the left and 5/8-inches down. Ice pick points to the hole position for punching. The relocker is fired in the picture.

5 Bolt retracted, handle turned, bolts withdrawn. Note the anti-handle punching screw below the handle cam 1/2-inch nut.

use a 3/16-inch drill bit and a small punch. I then punch the handle cam behind the combination lock bolt and force the handle counter clockwise to open the safe. This trick would have worked, but a couple of things made me change my mind.

First, the handle was broken and I did not feel like clamping pliers on the stub to force the bolt open. Secondly, I must learn to change my way of thinking when opening safes. Drilling under the dial may not be best anymore.

I have used side drilling on High Security containers with good success. I have read the combination through the change keyhole. Why not try it on this unit I asked myself. Side drilling means no door repair, no lock repair and no new dial and ring. I'd repair the side and inside of the safe with a 3/16-inch pop rivet. Quick, efficient, and very cost effective. There was no glass plates or hard plate, and side drilling is so easy. Why not use it on this easy to open unit? I did.

The lock on this unit is mounted Horizontal Left (HL). This meant that the lock change keyhole was located 1/2 inch lower than dial center. I measured the dial center to the top of the safe



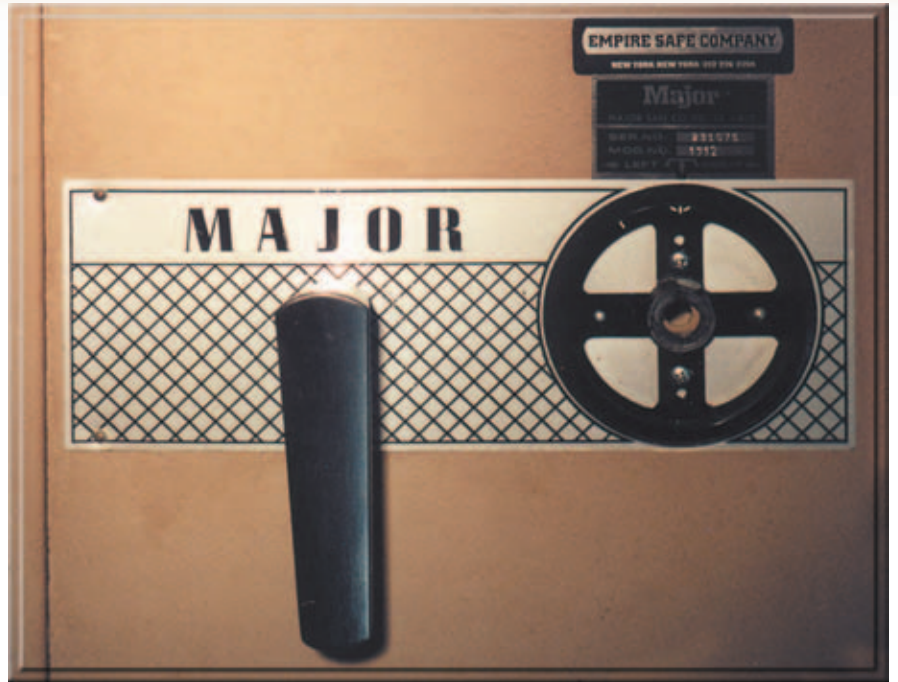
and it was 7-1/2-inches. I figured the door to be two inches thick and added an inch for the lock case. I then measured 8-inches down and 3-inches back from the face of the door on the right (hinge) side of the safe. I drilled a 3/16-inch hole to the inside of the safe. The hole was perfect. *Photograph 3*, shows the inside of the safe.

The first thing I noticed was that the lock was a LaGard 1800 series key change lock. In fact, this makes reading the combination through the key change hole much easier. The holes used to balance the wheels allow viewing through the wheels almost as good as the wheel gates do.

The door setup was typical Meilink, but with a full sized Group 2 combination lock. A back plate attached by the cover screws held the relocker in place. There is also a screw on the inner handle cam that must be checked for tightness like on a Meilink safe. This screw functions as a shear screw if the handle is forced. In this case, the handle broke before the screw did.

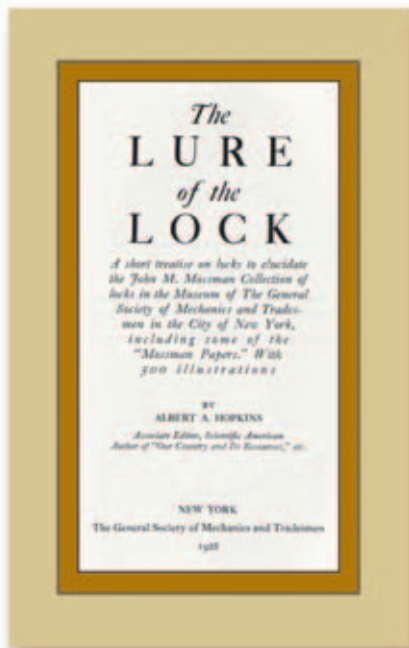
In *photograph 4*, I show what would happen if the back plate was punched off. The relocker will fire into a slot in the handle cam. This keeps the cam from turning and the safe will remain locked. This unit has three active bolts, top, bottom, and side engaging bolts. Also in photograph 4, is the location at the end of my ice pick. This is the drill position that I alluded to earlier for punching. Drill from the outside and punch the end of the handle cam to go behind the lock bolt. This trick works. Do it enough and you will not have to even measure. The hole position is automatic for me now.

When the bolt of the lock is withdrawn, the end of the handle easily bypasses the end of the lock, allowing the cam to rotate and withdraw all three bolts. This is shown in *photograph 5*. If



the relocker is set off, then you will have to drill and punch for it. Drill about 2-inches out from handle center at the 2:00 o'clock position. Punch and drill the relocker off. It is very hard to pry up. The spring is too strong.

6 Replacement (archive) handle. Note dial ring attached with screws and rivets.



The Lure of the Lock

This hardcover book, compiled in 1928, features dozens and dozens of beautiful photographs on ancient through modern locks.

[CLICK HERE TO LEARN MORE](#)

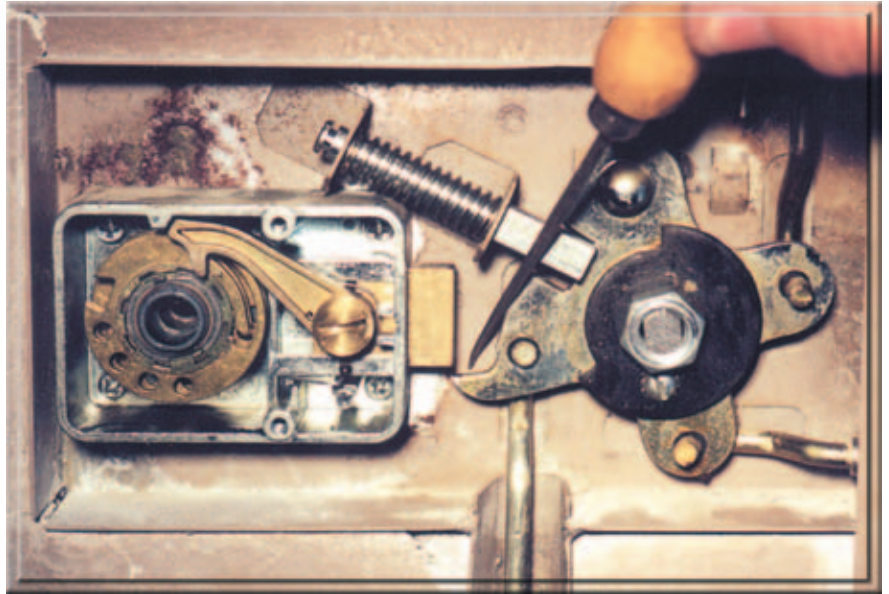


#LURE

In *photograph 6*, I show the replacement handle I used to repair this unit. It is an archive handle I had to cut down and rethread to use. Worked out quite nice. I left the dial off in this picture to show how the dial ring was attached. It has the customary screws at 12:00 and 6:00 o'clock, but also two rivets at 3:00 and 9:00 o'clock. Obviously the original dial and ring was S&G, but I am not sure about the inside lock. The safe has not been front drilled, so unless the lock was replaced, a LaGard lock was used.

The repaired unit in the open position with the new handle is shown in *photograph 7*. Quite striking. The total time taken to open the safe was about 10 minutes. The repair and remanufacturing of the handle took an hour. It was fun to dial open the safe through the change keyhole. Next on my list of wants is a camera and monitor attachment so I can sit back and dial the wheels without squinting through the Hawkeye eyepiece.

A few brief notes on keyhole dialing. First, I have a chart for both the gate position and the Hub on S&G locks and the "point" of the LaGard wheel. The gate position and the hub position are exactly 50 numbers apart. The hub, or point positions, are the actual numbers of the combination, and the gate positions are used to 'see' into the lock as you are dialing. Remember, when dialing; use the change key index for all readings. Once all the hubs, points, or gates are found, dial the hub numbers to the opening index and the safe will open. You



might have to add or subtract one number from your readings if you were looking into the keyhole at an angle. This system does work.

Open by drilling through the side of a safe, and you will prosper! **TNL**

7 Repaired unit in open position and the dial at the PDS (Positive Dial Stop) position (97 on this lock).

Safe Opening Volumes 1, 2, 5



These are the classic safe books you will need to open most any safe easily and professionally.

- Volume 1 - Modern Safes
- Volume 2 - Modern Safes
- Volume 5 - Very Recent Safes

CLICK HERE TO LEARN MORE



UNLOCKING

THE 2002 CHEVROLET TRAIL BLAZER



2 The High Tech
Tools Number
23 tool.

1 The 2002
GM Trail
Blazer.

3 Lower the tool just
in back of the door
lock button.

by Tony Vigil

In an attempt to gain shelf space — sort of speak — GM has introduced three new SUV's to its current line-up. These are all really the same vehicle, so for the sake of this article we will refer to them all as the Trail Blazer. (See photograph 1.)

GM is a master of confusion when it comes to its vehicle models. There are so many vehicles that share the same chassis that it gets very confusing if you don't have a good set of manuals to guide you. In the case of its SUV's, I believe they have made a special effort to confuse everyone.

In the last few years they began mixing and matching names, models and chassis to a greater extent than usual. In the case of the Suburban, Yukon, Tahoe, Escalade and Denali, they made changes to chassis and swapped names around in a way that can only be followed with proper documentation.

To avoid confusion, let's start with Chevrolet. First we have the S10 Blazer, which is a current vehicle up until this year. This vehicle has been virtually unchanged for years and I imagine is still a good seller. In March GM released the Trailblazer as a 2002 vehicle.

GM manufacturers across the five major lines of Chevrolet, Pontiac/GMC Oldsmobile, Buick, Cadillac, and of course Saturn. GM extended the Trail Blazer into the



Pontiac line whose truck division is GMC.

Much like Chevrolet, GMC had a Blazer sister, which were actually two vehicles, the Jimmy and the Envoy. The Jimmy is the low end version and the Envoy was the luxury version. Until now both these vehicles were on the same chassis and both are available in 2001. As an early 2002

release GM launched the new Envoy, which is on the same chassis as the Trail Blazer, while the Jimmy stayed as it was.

Now lets go to the final version of the Trail Blazer under the Oldsmobile label. Oldsmobile, in case you haven't heard, will be history in a year or two, as GM is closing the product line altogether. I don't know why, but they chose to launch the new 2002 Bravada using the Trail Blazer chassis.

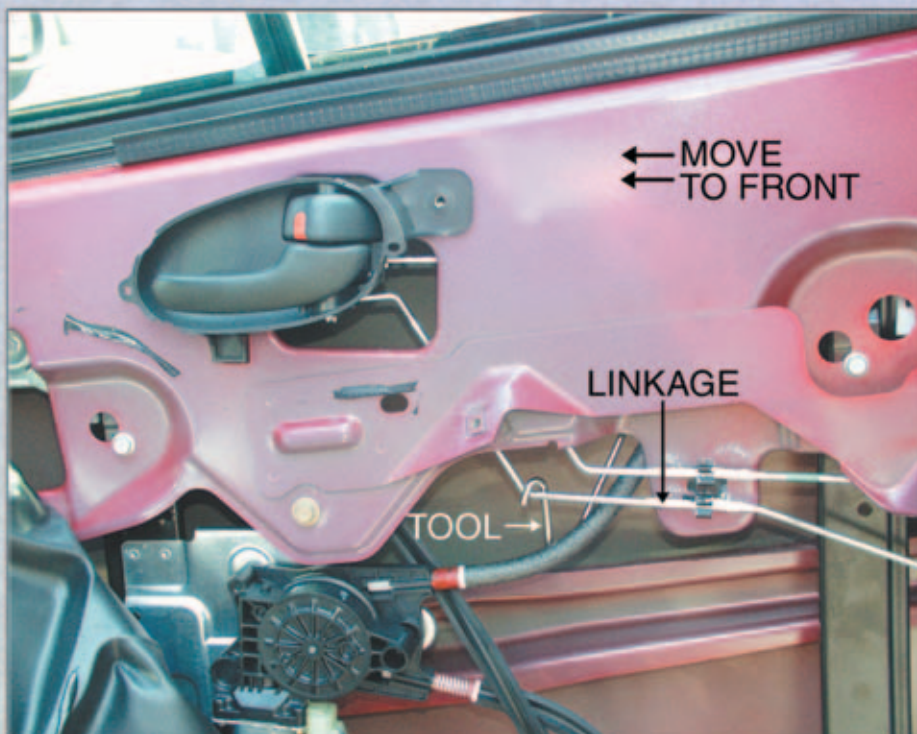
So now that we have the models all cleared up , lets get to the opening procedure

To unlock the Trail Blazer we will by using the High Tech Tools Number 23 tool. (*See photograph 2.*) To start, point the tip of the tool towards the front of the car. Using the door lock button as a guide, lower the tool into the door just in back of the door lock button mechanism. (*See photograph 3.*)

Once the tool is in the door, turn the tip towards the inside of the vehicle and lower it on to the bottom lock linkage. (*See illustration A.*) As you can see in photograph 4, the bottom linkage is clearly exposed and the tool falls easily into place.

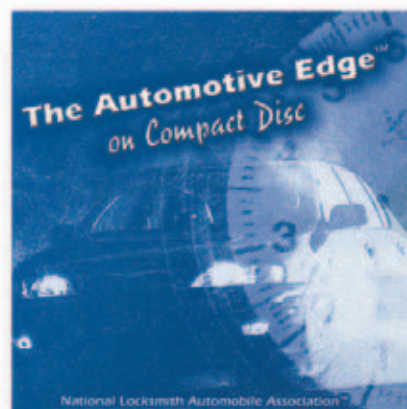
Twist the tool so the tip moves towards the front of the car and you are in less than 30 seconds flat.

For more information contact High Tech tools 1400 SW 1 Street Miami, FL 33135. Phone: 800-323-8324; Web: www.hightechtools.com. Circle 231 on rapid Reply.



4 The bottom linkage is clearly exposed.

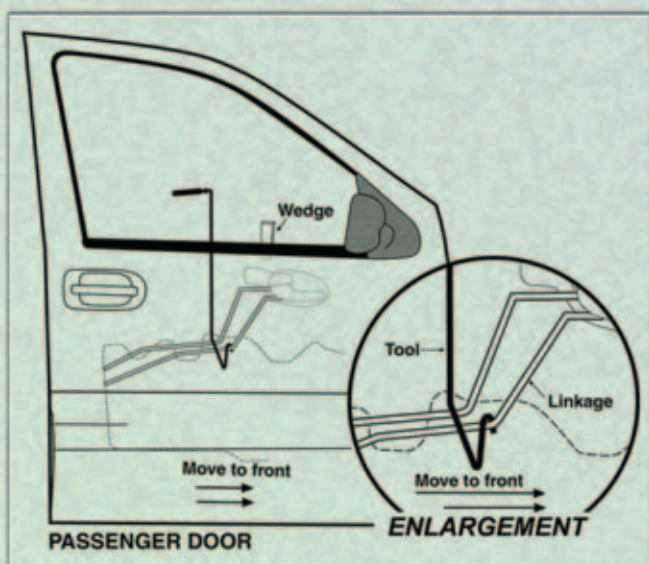
AutoEdge



This CD contains over 1,000 pages of automotive locksmith service.

CLICK HERE TO LEARN MORE

#AE - CD



A Lower it on to the bottom lock linkage.

TNL



THE CASH STATION

by Mark Daniel

Diebold Locker Safe

Manufacturer
Diebold

Model #
Locker

Handle Type:
L Style

Handle Rotation:
Counter-Clockwise

Handle Location:
6" down, 2-1/2" over from opening
edge

Dial Center to Handle Center:
From top dial it is 4-3/4" over on
horizontal center

Dial Location:
Top dial is 6" down and 7-1/4" over
from opening edge

**Number of Door Locking
Bolts:**
2

Door Locking Bolt Locations:
Top bolt is 3-1/4" from door opening
edge and 1" back from face of door.
Bottom bolt is 1-3/4" from opening edge
of door and 1" back from face of door.

Door Locking Bolt Diameter:
3/32" x 1" flat stock

**Door Thickness to Bolt
Center:**
1"

Door Thickness to Lock Case:
1/2"





Diebold Locker Safe

Door Thickness to Back of Lock:
1-5/8"

Combination Lock Type:
Two, Diebold 177-23

Combination Lock UL Rating:
Group 2

Combination Lock Description:
3 wheel, key changeable

Combination Lock Case Thickness:
1-1/8"

Number of Wheels:
3

Driver Location:
Rear

Combination Lock Handing:
Left Handed (LH)

Drop-In Location:
47

Forbidden Zone:
90 - 10

Combination Lock Opening Procedures:

4xL to first number
3xR to second number
2xL to third number
1xR until dial stops.

Combination Lock Drill Point:

48 x 7/8" from dial center.

Combination Lock Relock Trigger Type:

None

Special Note:

The Diebold 177-23 is a "0" change lock.

Combination Lock Changing Procedures:

1. Dial the existing combination to the opening index.
2. Insert the proper change key (Diebold # 03-001661-0-00-0) and turn it left 1/2 turn.
3. Dial the new combination to the opening index.
4. Turn the change key right 1/2 turn and remove it.
5. Test the new combination at the opening index.

External Relock Device Type:

None

TECHNITIPS

YEAR-END PRIZES



Grand Prize

Silca Bravo Duplicator



1st Prize

HPC's 1200PCH
Punch Machine



2nd Prize

Mas Hamilton's
PowerLever 2000



3rd Prize

Curtis 2200 Duplicator



4th Prize

SDC Magnetic Lock,
Keypad and Exit Switch



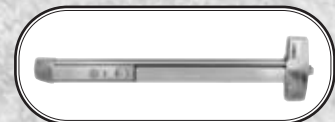
5th Prize

Securitron 12-Volt Unlatch Plug in
Trans & Touchpad Retail Value \$650



6th Prize

LaGard "SmartGard"



7th Prize

Detex Advantex



8th Prize

Arrow 400 Series Alarmed
Exit Device & S-75 Mounting
Plate Kit for Narrow Stile
Aluminum Doors



9th Prize

\$500 in BWD Products



10th Prize

\$500 in ASP Auto Locks



11th Prize

\$500 in Strattec Auto Products



12th Prize

Tech-Train "Jiffy Jack"



13th Prize

Sargent & Greenleaf 6120
Electronic Safe Lock



14th Prize

High Tech Tools
2000 Pro Set



15th Prize

Slide Lock's Master "Z" Tool Set



16th Prize
ESP Products Sampler



17th Prize
Major Manufacturing's
HIT-111 Drill Guide



18th Prize
Abus Padlock's Marine
Padlock Display (\$120 Retail)



19th Prize
MBA USA, Inc.
Falle Pick Set



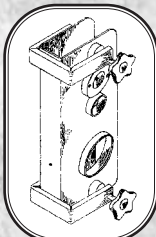
20th Prize
Baxter JV-1 & JV-5
Code Books



21st Prize
Sieveking Products
Squeeze Play



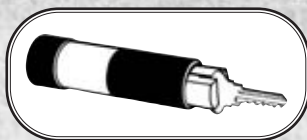
22nd Prize
Rodann's RV500 Wireless
Door Annunciator System



23rd Prize
A-1 Security Manufacturing
Installation Jig



24th Prize
Keedex Sampler



25th Prize
Framon
Impressioning
Handle



26th Prize
Gator Tool Multi-Purpose
Facecap Tool

These Prizes Awarded Each Month!

- BWD Automotive Ford or GM KwiKit
- Wedgeco™ Key Extractor Kit
- Strattec Racing Jacket
- HPC Air Wedge™
- Sargent And Greenleaf 4400 Series Safe Deposit Box Lock
- A-1 Security Products
- ILCO Key Blanks (100 Blanks)
- Keedex "SPIN OUT" Screwdriver
- Tech Train Training Video
- Sieveking Products Gm E-Z Wheel Puller
- Major Manufacturing Products
- Slide Lock's "Z" Tool Opening Set
- The Sieveking Auto Key Guide
- Jet Key Blanks (100 Blanks)
- High Tech Tools
- LaGard Combo Guard

Send in your tips, and win!

How To Enter

Send a tip on how to do any aspect of locksmithing. Certainly, you have a favorite way of doing something that you would like to share with other locksmiths. Write your tip down and send it to:

Jake Jakubowski, Technitips Editor,
The National Locksmith
1533 Burgundy Parkway
Streamwood, IL 60107-1861

Or send your tips via
E-mail to: Natlock@aol.com

Rules & Regulations

Each tip submitted must include your full name, street address (no P.O. Box numbers), city, state, zip code, phone number, fax number or e-mail address.

Every Tip Published Wins

If your tip is published you will win one of the monthly prizes listed. At the end of the year, we choose winners from all the monthly tips published, that will be awarded one of the fabulous year end prizes. All you have to do to win is enter.

Prizes are arranged according to suggested retail price value.

Tips Start
on Next Page





**BWD KWIKIT WINNER:
Impressioning Tibbe
Locks**

In England most Ford products, since 1984, have been fitted with Tibbe locks, using the Silca FO21P blank. I'm not sure if these are sold in America, but if they are, you yanks can try this as well.

The locking mechanism consists of six discs and the keys are cut to four depths. As the key is inserted and turned, notches on the discs line up with a cut on the side on the casing, allowing a longing bar to drop in the notches and the plug to turn. The operation of the plug is very similar system to Abloy's Classic and Oal type locks. Any blank or cut key will lock the vehicle, but only the correct key will unlock it.

With Tibbe, every lock has at least one four cut (the deepest) in it and it is this cut which initially allows the lock to turn. To impression the cylinder, put the blank into the lock, apply turning pressure in the unlock direction, and remove blank. When trying for marks you will find that the blank is usually marked in at least one position, on the edge of the flat top. When you see this mark, cut it as a four depth. To do this I use the Silca card #220 in the Formula X machine. If there is more than one mark cut them as four depths as well.

Reinsert the blank into the plug and apply turning pressure. The next few marks are harder to identify and I've found that by using a marker pen along the edge of the blank, the marks show up more clearly.

The next mark(s) you see, cut to a two depth. If when you turn the key again it marks in the same space where you just cut a two; cut it down further to a three depth. Finally, reinsert the key and try for the final impressioning marks, which should be a three. Cut them as necessary. Now the only one left is a one, which is a no cut.

If you have read the marks correctly, the key should turn. Jaguar also uses a similar type of key. I don't get much call for them, but they probably work the same way, except they have three depths and a few more spaces. I have to see if next time I fit a lock at the Jag factory, they will give me a car to try on, hey?

Steve Fox
Great Britain

A Few Words From Jake...



by Jake
Jakubowski

On occasion I have contributed a tip or two of my own to this column. I think it's only fair, since so many of you have been willing to share your tips with me and all those who read this column.

This month I'm going to give you two tips. The first one is that I have invented, and am producing (patent pending) a universal, retrofitable toilet stall latch.

How many times have you been doing work for a commercial customer and they've asked you to "check out the lock on the door in the bathroom?" You check it out and find that the latch on the stall door is kaput! Now, try finding one of those suckers!

If your experience has been anything like mine, you can't do it. Not a retrofit anyway. If you can identify the manufacturer of the hardware, you stand a pretty good chance of getting what you need. Otherwise, you can put a hook and eye on it or a small slide bolt. Neither of which is satisfactory.

Well, I have invented an honest-to-goodness, universal, retrofitable toilet stall latch that will fit virtually any configuration of toilet stall doors! Check my Real-E-Z-Latch® out on <http://www.realezlatch.com> and find out all about it.

My second tip is almost too simple to mention.

Have you ever gone up to a door with a panic device on it and find that not only has the device been mounted and remounted — or replaced — but there are all sorts of holes drilled in the door (especially metal doors) where the mounting hardware has been moved or replaced with something else. The holes are unsightly and make the whole installation or repair look unprofessional.

Try this: If the holes are just screw holes, drill them out to accept a 3/16" PopRivit® and put a rivet in the hole to cover it. If the hole is a bolt hole, drill the hole all the way through the door and put a sex bolt in the hole with a finish washer on the inside. Some holes in aluminum stile doors can be repaired using a 1/4-20 screw or bolt and chrome finish washer.

Whatever you do, it makes the job look a little neater and a lot more professional.

See y'all next month.



**WEDGEKO KEY
EXTRACTOR WINNER:
Double Viper Opening
Trick**

I have found there are two very easy ways to get into a locked Viper.

The rear window has two locks one on each of the upper sides of the glass. One is at the top right and the other at the top left. (See illustration A.) You can easily pick or impression either of these locks. The right side window picks

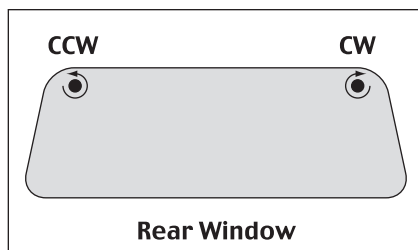


Illustration A.

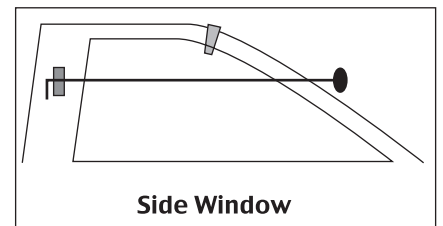


Illustration B.

clockwise and the left side window picks counter-clockwise.

The second method is to wedge the window using a wedge, Jiffy Jack or inflatable wedge, at the front top corner of the window, and use any long tool to reach back to the locking buttons on the "wall" post. It is behind the driver's or passenger's head area. (See illustration B.) Simply hook lever, pull and twist.

I have found either of these methods to be effective and fast.

Charles M. Mort, CRL
Montana



**STRATTEC WINNER:
Making Tryout Keys
for GM 10-Cuts**

Here's an easy chart for making tryout keys for the GM-10 cut (spaces 6-10). These tryout keys are best used for opening vehicles such as Corvettes, or just about anything that has a CSS column, late model pickups, Blazers, Yukon's, Astro/Safari vans, and virtually any GM with tumblers in spaces 6-10.

Using B89 blanks, you can cut these try keys very easily by following the chart below. You will need a total of 16 B89 blanks with different cuts on each side for a total of 32 keys.

Remember to stamp your blanks 1-16, and when using start from #1 until it works.

The cuts are as follows: A= 1-1/2
B= 3-1/2

| | |
|----------|-------|
| 1- AAAAA | AAAAA |
| 2- AAABA | AAABB |
| 3- AABAA | AABAB |
| 4- AABBA | AABBB |
| 5- ABAAA | ABAAB |
| 6- ABABA | ABABB |
| 7- ABBAA | ABBAB |
| 8- ABBBA | ABBBB |
| 9- BAAAA | BAAAB |
| 10-BAABA | BAABB |
| 11-BABAA | BABAB |
| 12-BABBA | BABBB |
| 13-BBAAA | BBAAB |
| 14-BBABA | BBABB |
| 15-BBBAA | BBBAB |
| 16-BBBBA | BBBBB |

Jonathan Muhammad
E-mail



**HPC WINNER:
Keeping Track of the
Oddballs**

I've been locksmithing for about 25-years now and it seems as if a week can't go by without someone bringing me something that I've never seen before.

A long time ago, I decided to start keeping track of all those oddball items and have found that I keep referring back to my oddball file to find a solution to a problem a customer has just laid on my service counter.

I purchased a binder and a packet of business card holder pages. These pages have ten plastic pockets that will hold twenty business cards back-to-back (in my case, front-to-front).

Every time I originate, duplicate or

see an odd or unusual item, I write down the information on the back of a business card and slip it into my binder. The card may contain blanks used, spacing, depths, configuration or any modifications I had to make.

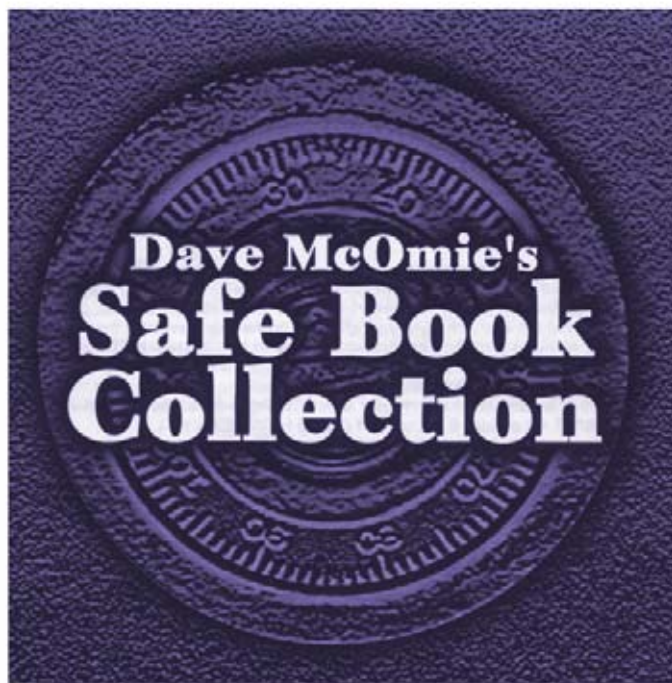
Occasionally, I will even make an extra blank and slip it into the pocket with the card. This little trick has come in handy many, many times. I have made a key for a Kraco Electronic Nightstick on at least three occasions and simply duped the key from the one in my oddball file. (See illustration C.)

If I come across an unusual lock, I



Illustration C.

Dave McOmie Safe Book Collection on CD



This CD contains every book Dave has ever published.

CLICK HERE TO LEARN MORE



#DMCD - 1

write down whatever information I have. That way, I'm at least aware that the lock exists.

My Oddball Binder has been a great asset to me over the years as one of my most utilized reference guides.

*Elain Willhoite
California*

Editor's Note: Elaine, great idea. Sounds like a handy reference guide. I've written countless notes on the back of business cards and then lost the card. It never occurred to me to use a business card file to store that information.



**SARGENT &
GREENLEAF WINNER:
Gumball Machine
Picking Trick**

Locks in gumball vending machines like the Chicago double-sided (CG-1) locks, are fairly easy to pick. Problem is it's 1/4 of a turn at a time, which means you have to pick the lock almost countless times to get the spindle free.

I've got an easier way!

Pick the lock one eighth of a turn and stop!

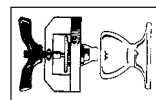
Next, pack the keyway (all the

wafers are at the shear line) with string! I use a light-duty twine that holds the wafers in place and allows me to use almost any tool to spin the lock and spindle loose without repeated picking.

Once you have the lock out, the string is easy to remove and you can generate a key or service the unit as desired.

*Duane Habelock
North Dakota*

Editor's Note: Duane, I was intrigued by your tip and decided to give it a try. It works! It also worked on a Detex lock. It's a great tip and a real time-saver,



**A-1 SECURITY
PRODUCTS WINNER:
Manipulation and
Troubleshooting Aid**

The use of an amplifier to determine the contact points at "drop-in" on a combination lock can be extremely helpful. A greater degree of accuracy is often obtained versus doing it by feel. A previously published Technitip in the August, 2000 issue using a laser pointer to amplify these points is also recommended.

A normal microphone is used to convert the vibrations of the contact to be picked up, into an electrical signal which is amplified. This method can introduce unwanted sounds from other sources.

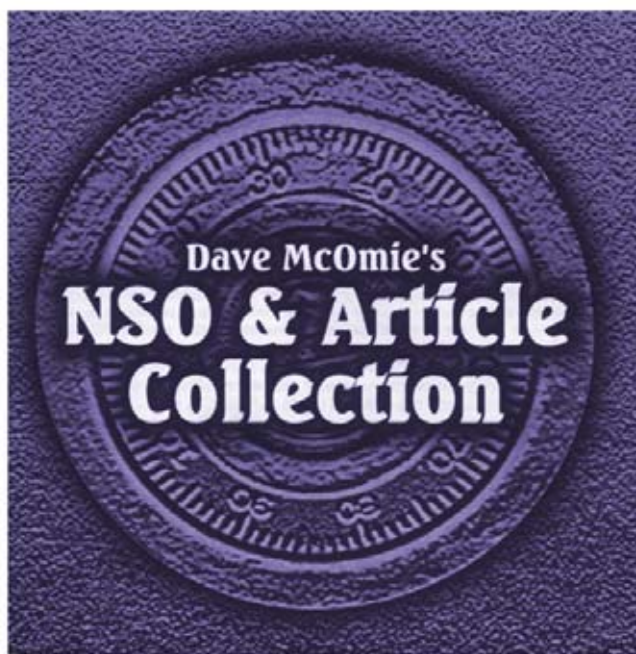
The object of this tip is to enable the assembly of an inexpensive, easily built, versatile and highly effective contact microphone to directly convert vibrations to an electrical signal for amplification.

The materials required are:

1. A piece of dense foam material 2.5 X 2.5 inches approximately 1/2 inch thick.
2. A paper holding magnet.
3. A record player pickup (the older vintage crystal type is very desirable because it has a high output. If this is not available use whatever type you can find of the ceramic type.
4. A length of shielded wire with a male RCA plug, and two short lengths of flexible small wire.
5. An amplifier and headset.

Cut a slot in the foam to insert the magnet. Mount pickup to either top or bottom of foam as required to place needle in contact with safe door. Attach short wires from pickup to

Dave McOmie NSO & Article Collection on CD



This CD contains every NSO newsletter and McOmie File Dave has ever published.

CLICK HERE TO LEARN MORE



#DMCD - 2



Photograph 1.

shielded cable. Super Glue® magnet, cable and pickup in place. The foam is used to mount parts as well as to keep needle in contact with the safe door providing the required pressure. Construction is complete! (See photograph 1.)

If you have electronic experience an amplifier can be utilized from an old tape player, radio or other source. Otherwise, Radio Shack has a Mini Audio Amplifier (item #277-1008) for \$11.99. The use of muffler type headphones is recommended.

This device is extremely sensitive and useful for contact point location, troubleshooting and determining, lock orientation. The total cost is less than \$25 for construction of both Laser-pointer, mentioned earlier and this amplifier.

If you have never tried manipulation, I recommend the book The National Locksmith's Guide To Manipulation. Just remember that a good amplifier will increase your chances of success dramatically.

*Coleman Bovender
North Carolina*



**ILCO KEY BLANKS
WINNER:
Kwikset KIK Bypass
Tip**

I have found what I consider a quick and easy opening method for Kwikset, Gainsborough and similar style lock sets that have been installed upside down.

Using a 3" length of round spring wire, I put a slight bend in one end. I already have several of these made up and keep them in my toolbox. I insert the bent end into the #1 pin chamber and push the bottom pin into the upper chamber. This is easy to do as the cylinder is upside down anyway.

Next, I gently tap the other end of the spring wire with a small hammer

until I force one end of the spring retainer cap off the top of the bible. At this point, I can use my pick gun and with just a few clicks, pop the retaining cap completely off the top of the cylinder, dumping the pins and springs into the knob.

If you do not have a pick gun, you can repeat the process with the wire until you have completely pushed the retainer cap off and have forced all of the springs into the knob. You can also use this method when the knob is right side up, but it is more difficult to get the springs and pins free of the chambers.

If you're simply responding to a lockout, all the springs and pins (you might have to replace the #1 spring) are in the knob ready to be replaced. If you are rekeying and there is no operating key, the job is half done when you take the knobset off the door.

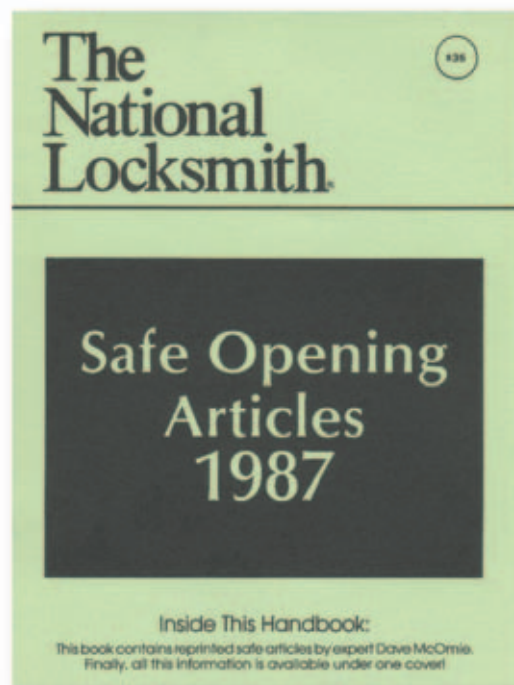
*Steve Paris
Australia*



**KEEDEX WINNER:
Padlock Breaker**

The first lock I ever bypassed (besides slipping the latch with a credit card) was on my wall locker in the military. I still

Safe Opening Articles 1987



Now under one cover—all the information safe opening articles by expert safeman, Dave McOmie.

CLICK HERE TO LEARN MORE



#SA - 1

often use the same technique when dealing with 'picky' padlocks.

Use a 12" crescent wrench and place the body of the padlock in it. Place one end of a tapered pry bar or even a combination wrench, in the shackle (as shown in the illustration) and apply squeezing pressure. That is, bring the end of the pry bar and the end of the wrench together to break the shackle off at the body of the lock. (See illustration D.)

The American padlocks we used in the military would often snap with one hand.

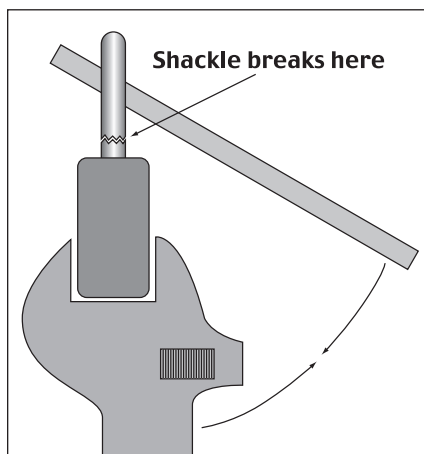


Illustration D.

Most American and Master locks will snap with very little effort. I've broken hardened pro series locks with a very long pry bar and larger crescent wrench.

John Roberts
Louisiana



TECH TRAIN TRAINING
VIDEO WINNER:
Securing Thumb-Turns

I had partially rekeyed an office complex and had left the keys with the owner on Saturday and told him I would return Monday to complete the job. He came to the office Sunday and couldn't get in he had left his new keys in his office when he left.

It was unavailable Sunday and he decided to try to get in on his own. The front door had a thumb-turn on the inside and the customer used a stiff bent wire to try to manipulate the thumb turn and unlock the door. He said it took him about ten minutes, but he was able to get in the building and retrieve his new keys.

Monday when I showed up he told me he was concerned that anyone could access his building the way he did and asked me if there was anyway

of preventing the same thing from happening.

I came up with the idea of reversing a dead bolt housing sleeve and attaching it to the door by unscrewing the thumb-turn and placing it in the cone shaped sleeve, using the thumb-turn to hold the housing on the door. The sleeve covered the thumb-turn and prevented anyone from manipulating it with a stiff wire.

Jim Landis
Pennsylvania

Editor's Note: Jim, thanks for the tip. Unfortunately, you didn't mention the type of cylinder sleeve you used. KEEDEX makes a deep cylinder guard ring that would be ideal for this application.



SIEVEKING
PRODUCTS GM E-Z
WHEEL PULLER
WINNER:
**Mini Mag Loading
Tool**

The Mini Mag Silhouette can make an excellent lighted plug follower. With a few minor modifications this flashlight can also be a great top pin loader. (See illustration E.)



How To Pick Tubular Locks

This software shows you every step of tubular lock picking in clear and simple detail.



CLICK HERE TO LEARN MORE



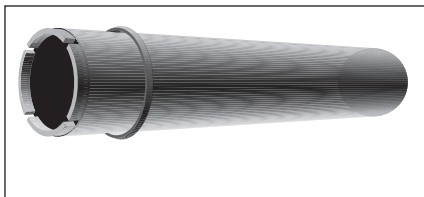


Illustration E.

First, use a round or Pippin file to cut a notch across the face of the light. Place a small vinyl dot in the center of the lens to act as a glare shield. This will prevent too much light from causing a glare when you look down the barrel of the lock cylinder. Then place a 9/16 "O" ring or rubber washer on the shaft of the flashlight to act as a stop for the cylinder you are loading.

Next make a loading tool out of 1/8" rod. Bend a 90° angle at one end of the rod, about a 1/4" long and bend a 90° angle at the other end about 2" or so in length. On the longer bend, you can use heat shrink tubing to give you a better grip when using the loading tool. The tool allows you to keep your hand out of the way so you have an unobstructed view down the barrel of the cylinder.

To use the lighted follower, turn

the flashlight on and align it with the first pin hole in the bible. Drop in a spring and push it into place with the loading tool. Then, drop in a top pin and use the loading tool to push the pin above the shear line. Once the pin is above the shear line, move the follower to the next hole and repeat the process.

After loading the top pins, you will need to follow the flashlight out with a standard hollow follower.

*Dennis Harmon
Colorado*

Major
MANUFACTURING, INC.

MAJOR
MANUFACTURING PRODUCTS
WINNER:
Vent Window Opening Tool

If you remove the bail from the master cylinder in an older salvaged car, you will find that the bail is perfectly formed to open vent windows.

One end will work on the left side and the other end will open the right side, by releasing the button and turning the handle at the same time.

*Marvin Golden
E-mail*



**SLIDELOCK'S "Z" TOOL
OPENING SET WINNER:
Broken Turn Signal
Spring Repair**

While making a GM ignition key, how often have you found one or both of the turn signal canceling springs broken? They are money in the bank if you stock a few each of the thirty-eight cent springs. The part numbers are 1964784 and 1964785, respectively. The springs are handed: one for the right, and one for the left.

It is an easy fix, requires no special tools or skills, takes just a few minutes and adds to your profits. The nice thing is that most customers will gladly pay extra to remedy the problem of their turn signals failing to cancel after making a turn.

*John Lee Wright
Iowa*



**1995
THE SIEVEKING AUTO
KEY GUIDE WINNER:
Depth Key Trick**

For those locksmiths that use depth keys for making auto keys; if you cut the depth keys on both sides, you can then check the



IC Cores: Small Format

Everything you ever need to know
about how to sell, service, install and
troubleshoot interchangeable cores!

[CLICK HERE TO LEARN MORE](#)



depths on both sides of the plug at once. It saves a little time and saves a little confusion when figuring out the top and bottom of the double-sided locks.

*Pat Krause
Arizona*



**JET KEY BLANKS
WINNER:**

Master Lock

Combination Opening

The Master 175 introduced some years ago have four combination wheels on the base. Using a Weiser shim, bend one end into a circle of about 1/2" in diameter.

The diameter is roughly the diameter of a combination wheel. Slide the end of this bent shim over the top of the left-hand wheel while pressing in on the shackle. The shim will slide in for its entire length.

Release the shackle and the lock is open.

The newer Master combination locks with the wheels at the base are stamped 175D. These will not open with the first technique.

To open the 175D, you must take a straight Weiser shim and insert it on the upper left-hand side of the combination wheel on the far right.

Angle down with the shim. With the shackle depressed, lever upward using the combination wheel shaft as the fulcrum for your shim. With gentle but firm pressure, it will lever up and release the shackle.

Do not use excessive pressure or it will break your shim.

*John Veldenmer
E-mail*



**HIGH TECH
TOOLS WINNER:**

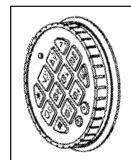
Ford Ball Bearing Trick

I hope you find this trick for replacing the ball bearing detent in Ford 8-cut locks useful.

I bought a nail-setting tool at my local hardware store for about \$1.50. It is the kind that has the little indentation or dimple in the tip. If you apply a little dab of grease to the dimpled end of the nail, it will hold the ball bearing in place while you insert it in the cylinder.

Simply place the ball bearing in grease, place it over the hole and spring and push down while rotating the plug. No more dropped ball bearings or flying springs.

*Ed Hamm
Illinois*



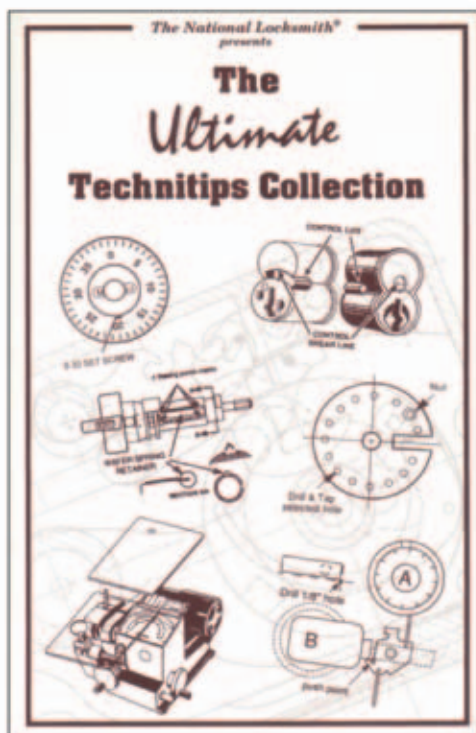
**LAGARD WINNER:
Mas-Hamilton
Handing Tip**

This tip might be helpful to technicians needing to drill open a Mas-Hamilton Auditcon safe lock. I have had to open six of these mounted on night depositories at various banks. The drill point was not a problem, determining the handing was. The first one that I had to open had me stumped because I wasn't sure of the handing of the lock. I found an easy way to determine the handing of each lock when it is unknown.

After you pull the dial, cover control assembly and mounting plate, look in the spindle hole with a good light or scope. If the wiring harness definitely pulls out from the lock at the bottom, it is right-hand (RH) mounted. If it pulls out at the top of the spindle hole, it is Left-hand (LH) mounted. If it pulls out at the left side of the spindle hole it is vertical-up (VU) mounted. If it pulls out at the right side of the spindle hole, it is vertical-down (VD) mounted.

Once the handing is known, position your drill point accordingly.

*Michael E. Shearer, CRL
E-mail*



The Ultimate Technitips Collection

Here's one of the most useful books
ever available to the locksmith!

CLICK HERE TO LEARN MORE



#TIPS - 2

BUSINESS BRIEFS

S&G Comptronic Locks on WRG ATMs

S & G has been selected as the exclusive provider of locking solutions for an innovative new family of ATMs. The Western Reserve Group (WRG) will equip its innovative new Vision 100 ATMs with S&G's high-performance Comptronic Model 6120 electronic lock as a standard feature. This decision is in direct response to customer demand for new ATM designs that combine ease of operation with value, yet do not compromise security. WRG is the first manufacturer to include the electronic locks as standard equipment in its basic ATM package and the S&G Comptronic 6120 fully meets their needs.

SDC Receives ISO 9001 Certification

Security Door Controls (SDC) took honors February 16, for recognition of ISO 9001 Certification and impact on local and state economy. SDC was presented with the award during a visit by California Assembly member Tony Strickland (R-Thousand Oaks, CA), who also toured SDC facilities.

As one of the largest manufacturers in its field, SDC designs and manufactures access control equipment combining security and life safety for hospitals, nuclear power plants, military bases, international airports, major corporations and government facilities worldwide.

Securitron MagnaZine

Securitron Magnalock Corporation is pleased to announce the release of MagnaZine, a free e-mail newsletter containing information about Securitron and the products and services we offer. MagnaZine is an excellent source for tips

and techniques, product information, Securitron news, and company profiles. The newsletter will be published monthly, with an occasional special edition.

To subscribe to MagnaZine, go to: <http://www.securitron.com>, or call 1-800-624-5625 ex. 426. Circle 216 on Rapid Reply.

Kirby Joins Dorma

Donald G. Kirby, a 20-year door hardware industry veteran, has joined DORMA Architectural Hardware as Manager, Product Marketing. Kirby was previously with LCN.



Donald G. Kirby

Michael Murray, a 25-year construction products industry veteran, has been hired as business unit manager - Automatics North America and Thomas A. Teagardin has been named business unit manager of Dorma Glas.



Thomas A. Teagardin

Locks, Safes and Security: An International Police Reference

The first edition of this book was published in 1970 and was one of the original references about locks utilized by forensic laboratories and law enforcement agencies throughout the world. The revised textbook contains forty chapters, with over 1400 pages of detailed information about locks and safes: their construction, design and bypass, as well as an in-depth analysis of physical security. There are over 550

illustrations, photographs and diagrams to supplement the text. The book may be ordered directly from the publisher.

For more information write to Charles C. Thomas Publisher, Ltd., 2600 South First Street, Springfield, IL 62704. Web: www.security.org. Circle 217 on Rapid Reply.

SECO-LARM Purchases New Corporate Headquarters

Vehicle and commercial security and access control manufacturer SECO-LARM U.S.A., Inc. has purchased a 16,095-square-foot building in Irvine, California, to serve as its new corporate headquarters. The company will move its sales, marketing, technical support, warehouse, and administrative operations to the new building located at 16842 Millikan Avenue, Irvine, CA, 92606.

For more information contact: SECO-LARM U.S.A., Inc., 16842 Millikan Avenue, Irvine, CA, 92606. Phone: (800) 662-0800 (domestic U.S.); Fax: (949) 261-7326; E-mail: info@seco-larm.com; Web: www.seco-larm.com. Circle 218 on Rapid Reply.

Trilogy Combination Proximity/Digital Lock with Audit Trail

A new, highly flexible state-of-the-art digital security system, featuring both keypad and HID proximity card access, is now available from Ace Lock & Security Supply. The new stand-alone system, manufactured by Alarm Lock Systems, Inc. offers a multitude of advanced "smart" applications, including a comprehensive audit trail. The Trilogy keyless Prox Locks multi-featured digital access control system provides more than 2000 user codes, a real-time clock offering up to 500 scheduled events, four programming levels, four user groups, and a



40000-event log. This ultra-modern system is completely programmable at the keypad or on a PC. Using a non-volatile memory, up to 40000 time and date stamped entries can be accessed with an infrared printer, data transfer module or PC interface.

For additional information call: (800) ACE-LOCK; Fax: (800) ACE-FAX4. Circle 219 on Rapid Reply.

Security Lock Distributors Awarded Hid Line

Security Lock has announced a direct partnership with HID Corporation. HID produces the most technically advanced line of Wiegand and Radio Frequency Identification Devices for access control, personal identification, asset protection and management, material handling and other control applications. This new association enables Security to offer in depth inventory of HID products at competitive pricing.

For further information, phone: 800-847-5625; Fax: 800-878-6400; E-mail: info@seclock.com. Circle 220 on Rapid Reply. **TNL**



Back in 1820, Hans Christian Oersted noticed that he could make a compass needle move by passing an electric current through a nearby wire. He soon discovered that every electric current produces its very own magnetic field æ the principle of electromagnetism.

Hans is one of the true heroes of electronic access control. Every electric strike that clicks open does so because of electromagnetism. Every motor that spins inside an electric lockset spins because of electromagnetism. Relays also use electromagnetic coils to open and close switches.

Since electromagnetism plays a part in virtually every piece of locking hardware you install, it's worth your while to spend some time understanding how these devices work. Because this article is on basic electricity, I will not spend a lot of time on the installation aspects of these locks. Instead, I will introduce you to their electrical theory and operation.

How Electromagnets Work

As I've already said, current flowing through a wire creates a small magnetic field around the wire. If you coil the wire, the fields combine and strengthen each other. If you wind the wire around a conductor, the magnetic field becomes even stronger.

The heart of most electrified door hardware is a coil of wire wrapped around and iron or steel core. You may remember making an electromagnet in school by wrapping wire around a nail, and then connecting each end of the wire to a battery. An electromagnet of this type would be strong enough to pick up a few paper clips.

Electromagnetic Locks

The simplest type of electrified door hardware is the electromagnetic lock. It is simply a large electromagnetic bolted to a doorframe. A metal strike plate mounts to the door.

When a magnet is energized, it holds the strike plate and the door closed against the frame. Because there are no moving parts, the electromagnetic lock is extremely durable. In addition, binding is impossible. When power is removed, the magnet must release the strike plate. There are no mechanical parts to jam.

Photograph 1, shows a Medeco® MagLock mounted to the frame of an inswinging door. *Photograph 2*, shows the strike plate. Notice that it is mounted to a bracket that holds it up and away from door. This mounting bracket (called a Z bracket) allows the door to swing in freely. It requires about 1200 lbs. of force to separate this electromagnet from the strike.



1. A Medeco® MagLock mounted to an inswinging door.

Electric Strikes

If electromagnetic locks are the simplest, then electric strikes are certainly the most common pieces of electric locking hardware.

The electric strike uses a solenoid, which is an electromagnet with a moveable plunger. When the electromagnet energizes, it pulls the plunger inside of its coil. The plunger stays in until you remove power.

Because electric strikes use electromagnetic and mechanical action, they are sometimes referred to as electromechanical locks.

Photograph 3, shows the inside of an electric strike. The large cylinder in the center is the solenoid. In this photograph, no power is being applied to the solenoid.

Photograph 4, shows the same strike with power applied. Notice the mechanical arm connected to the plunger is being pulled in. Because of this mechanical action, I can easily open the keeper. When power is removed, the keeper can relock.



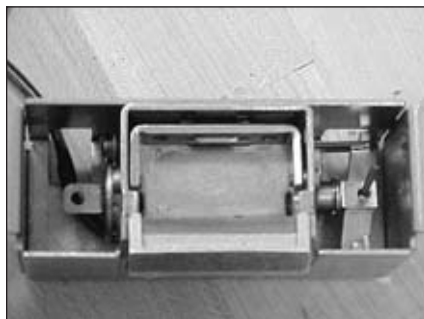
2. The Medeco MagLock strike plate.

BASIC ELECTRONICS

part 7



**by
William C. Deutsch**



3. The inside of an electric strike.

Electrified Locksets

Electrified locksets can be a very elegant alternative to the electric strike. *Photograph 5*, shows a Medeco Embassy® electrified lever. This device operates like any store room function lockset - the outside lever is always locked and may be opened with a key, while the inside lever is always unlocked. In addition, sending an electric current to its internal solenoid will unlock the lever. The lever will remain unlocked as long as current is applied. The Medeco levers can be powered from a 24-volt AC or DC source. All you need do is connect power to the two wires shown.



4. Notice the mechanical arm connected to the plunger.

The electrified leverset gives a very clean appearance. If the wires are routed through an electric hinge, the result is virtually indistinguishable from a strictly mechanical installation. In addition, the leverset is very helpful on fire doors and corridors. The latch can hold the door closed during a fire, while the lever handle still allows free egress.

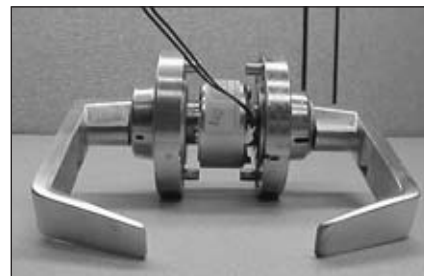
Using Electromagnetic Locks

From an electronic standpoint, there are three factors to consider when choosing and installing electromagnetic locks. Astute readers will immediately notice that the first two points are reviews from earlier articles.

Voltage

Make sure that the voltage rating of the strike matches the voltage rating of the power supply or controller used. If you are using a 12VDC power supply, or a controller that supplies 12VDC to the lock, make sure you are using 12VDC locking hardware. This may seem ridiculously obvious, but I have seen more than one installation nightmare caused by installers who ignored the obvious.

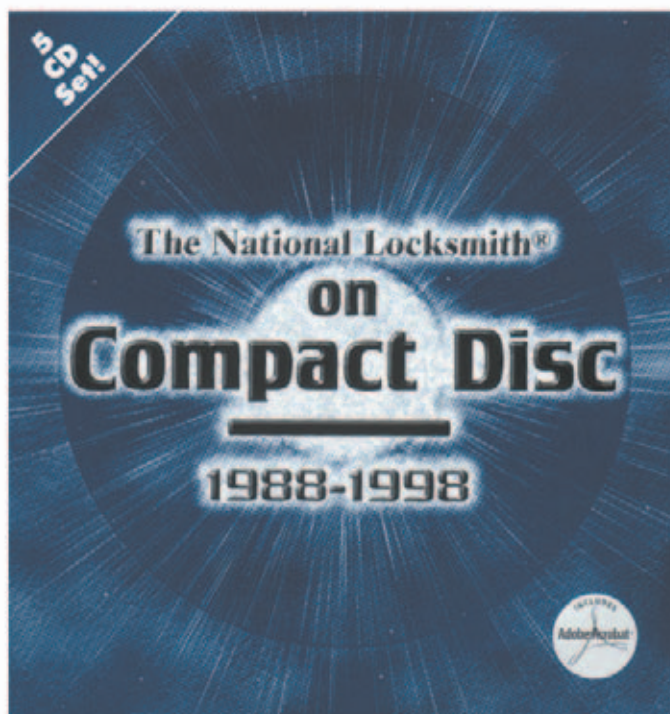
Also, make sure you use an AC power source for an AC strike or a DC power source for a DC strike. There



5. A Medeco Embassy® electrified lever.

are a few, but only a few, devices on the market that will accept AC or DC without a hiccup.

TNL on CD

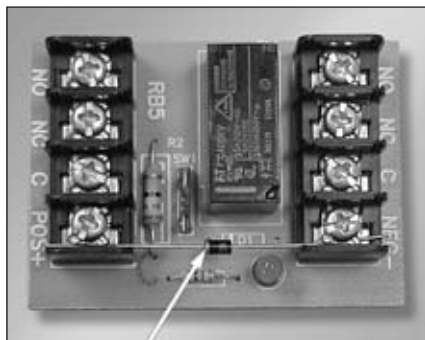


Our Compact Disc set features 11 years of the locksmith's favorite magazine. Thousands upon thousands of pages of indexed and searchable text!

[CLICK HERE TO LEARN MORE](#)



#TNL - CD1



6. The diode is in parallel with the relay coil.

Stocking dual voltage strikes means less money in inventory and less valuable space used in trucks and shelves. A strike such as the Medeco HD 8000 will accept anything you throw at it from 12 to 32 volts AC or DC, so you will never have to worry about matching the power source to the strike.

Even with "dual voltage" however, you usually have to make some kind of modification in the field to adjust for the proper input voltage. Read the instructions carefully and make any necessary adjustments, or your lock may go up in a puff of blue smoke.

Current

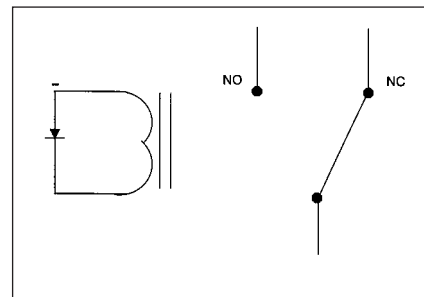
Your power supply or controller can provide a limited amount of current. Make sure that it can supply all of the current that your lock needs. When using a stand alone power supply, I recommend that you never exceed 75% of its rated current capacity. This gives a safety margin if heat build up, binding, or other equipment problems cause the current draw to rise.

If your lock requires .750 Amps (750mA) of current, make sure that you are using at least a 1 Amp power supply. If you are powering more than one lock from a single power source, you need to add the current draw of all the devices, and still make sure the total is no more than 75% of your available current.

The 75% rule does not apply to controllers. If your controller's documentation says that it can supply 500mA of current, the design engineers should have built an acceptable safety margin into that figure.

Inductive Kick back

It's as bad as it sounds. Coils are like spoiled children - when you take



A. A schematic representation of a diode installed across the coil of a relay.

something away from them, they throw stuff.

When you remove power from a coil, all of its stored energy kicks back in the opposite direction. One second the lock is receiving power from the controller, the next minute it is throwing everything it has back at the controller. This inductive kickback, as it is called, can be strong enough to destroy equipment.

How to protect yourself.

The easiest way to protect your controller or power supply against inductive kickback is to install a reverse diode.

Illustration A, shows the schematic representation of a diode installed across the coil of a relay. *Photograph 6*, shows what the diode looks like when you install it. The diode is in parallel with the relay coil, meaning that one end is connected to the negative terminal, and the other end is connected to the positive.

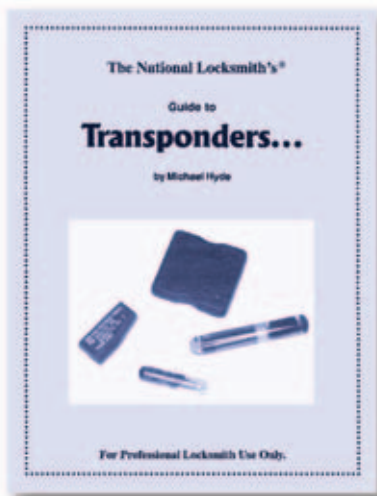
The body of the diode has a little silver band printed on one side. The side with the silver band goes to the positive side of the coil you are trying to guard. Because a diode can only conduct in one direction, it will not affect the flow of current going into the coil. But when the kickback current flows out of the coil, the diode will short circuit it before it can do any harm.

Some devices have inductive kickback protection built in. So, once again, read the documentation. If you are in doubt, install the diode.

As a side note: My son Willie received a blue ribbon in this year's science fair with an experiment on electromagnetic coils. His dad learned a lot from him.

TNL

TNL's Guide to Transponders



Over 350 pages in a handy binder to accept updates as needed.

CLICK HERE TO LEARN MORE

#TS - 2001

THE 2001 HONDA GOLD WING

PART 2



by
**John
Blankenship**



Ignition/Steering Lock



1

The ignition/steering lock is shown in the OFF position. To lock the steering, you need to turn the forks all the way to the right or left, push the plug in, and turn it counterclockwise to the LOCK position. You also need to push the plug in to turn it clockwise from LOCK to OFF position.



2

If you want to remove the ignition lock plug, begin by pulling up the trim around the ignition lock. It just snaps off and is easily snapped back on.

3

Remove the two Phillips screws that secure the bezel to the lock.





4

Pull up on the gray panel to pop out four tabs that hold it down around the ignition lock. Then pull up the inner plastic that covers part of the bezel and rotate the bezel forward to remove it. This is the hardest part of this job but it is worth the effort in order to avoid the time consuming job of removing the plastic completely.



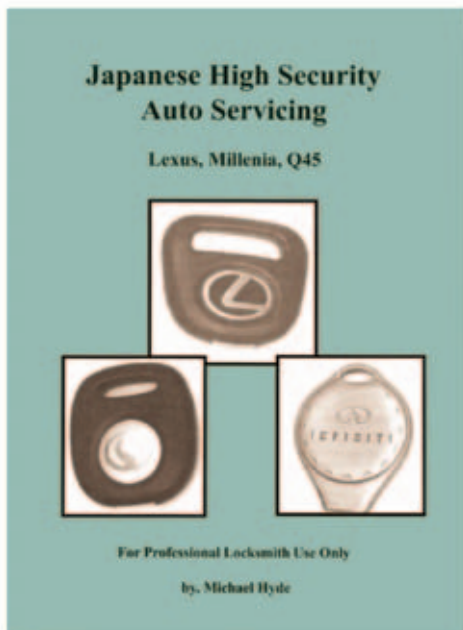
5

The bezel has been rotated forward part of the way and there is enough room under the gray panel to reach in from the side and pull it out.

6



The bezel has been removed and you can see the plastic extension that covers the rear facing part of the ignition lock.

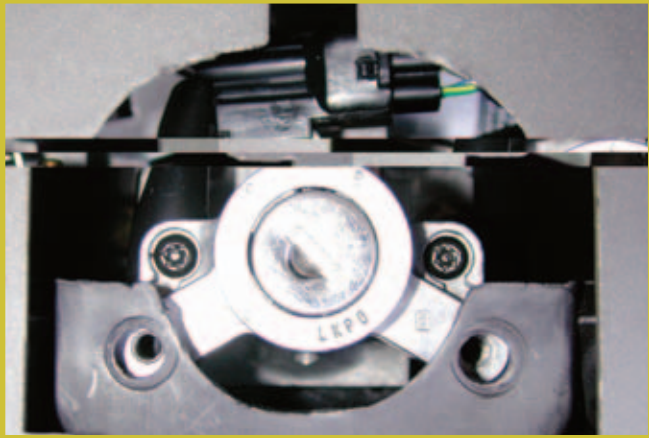


Japanese High Security

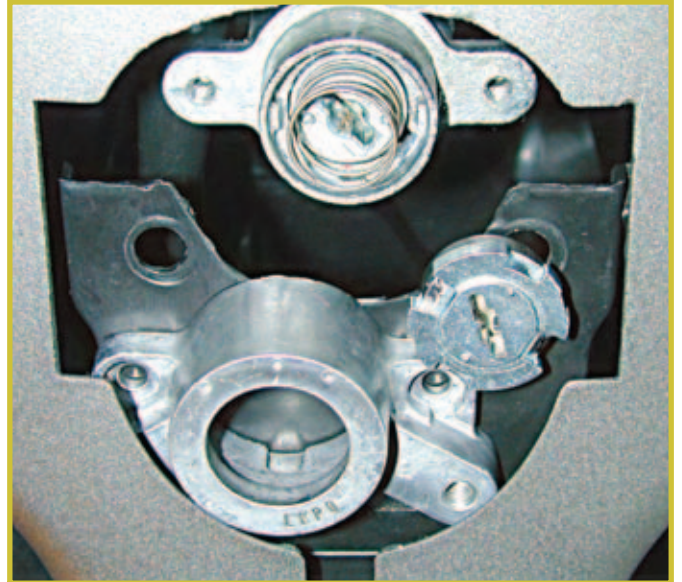
Some of the most profitable cars are also the trickiest to work on.

[CLICK HERE TO LEARN MORE](#)



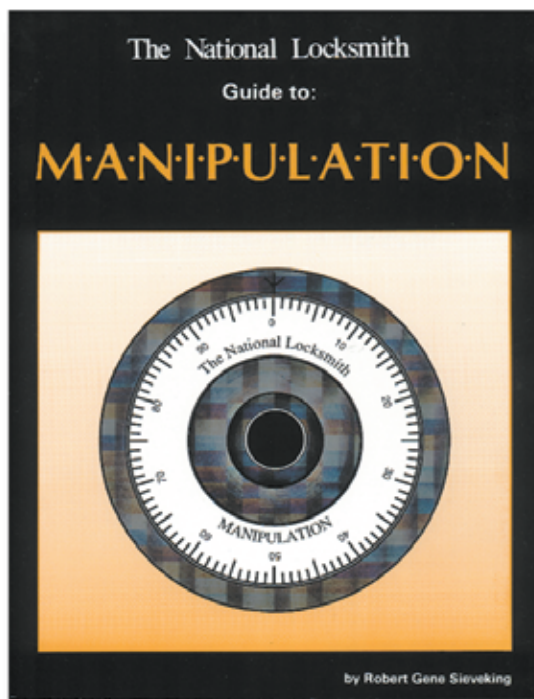


7 LKPO stamped on the front of the lock indicates this is a new type of lock. The latest Honda motorcycle 5-cut locks have LIPO on them and the Honda motorcycle 8-cut, 3-depth locks have LJPO on them. You can now see the two T-20 security Torx screws that secure the faceplate housing to the lock. Remove the screws and lift the housing up. You can rotate it clockwise to lift the left mounting bracket past the plastic, and then rotate it counterclockwise to lift the right mounting bracket past the plastic. Be careful not to lose the hardened faceplate/dust shutter unit and the spring under it.



8 The housing and faceplate have been removed to reveal the spring on top of the plug. The faceplate has been turned over to show the two tabs that need to be aligned with the two dents in the face of the plug during reassembly. To aid in reassembly, it is best to put the faceplate in the housing and then insert the key through the housing, faceplate, and spring to easily align the faceplate with the plug. The faceplate is designed to be pushed in against the spring during a screwdriver attack and interlock with the tabs inside the cylinder.

Continued on page 121



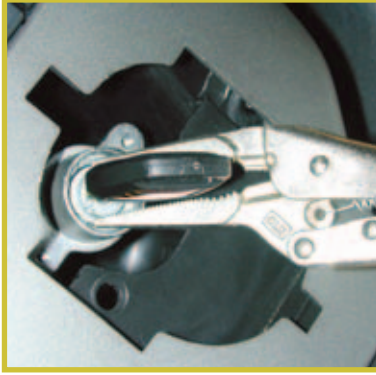
Manipulation Home Study Course

Our home study course guides you on step-by-step process, teaching you everything there is to know about manipulation.

[CLICK HERE TO LEARN MORE](#)

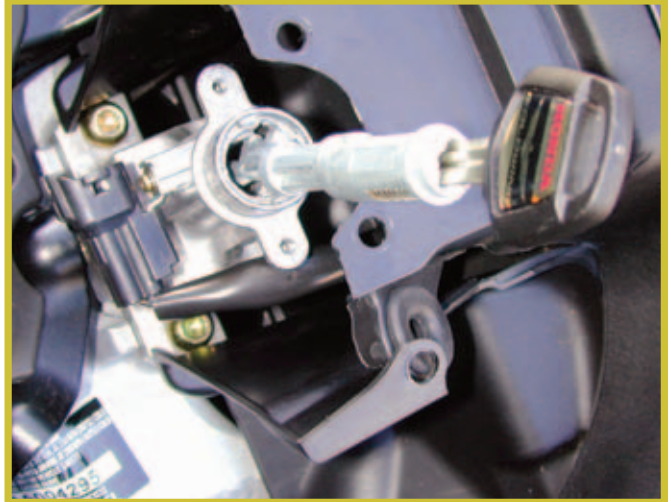
#MAN - 1

Continued from page 118



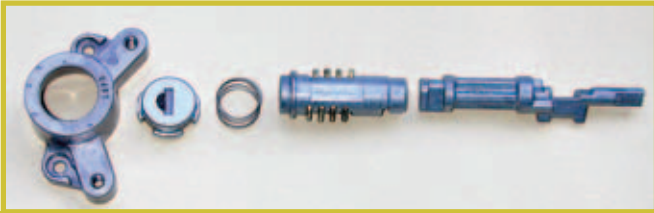
9

The plug has to be in the OFF position so the offset tailpiece aligns with a groove in the cylinder before the plug can be pulled out. The key would not pull it out so I used a pair of needle nosed vice grips to pull it out far enough to grab. The key does not have to be inserted as long as the plug is in the OFF position.



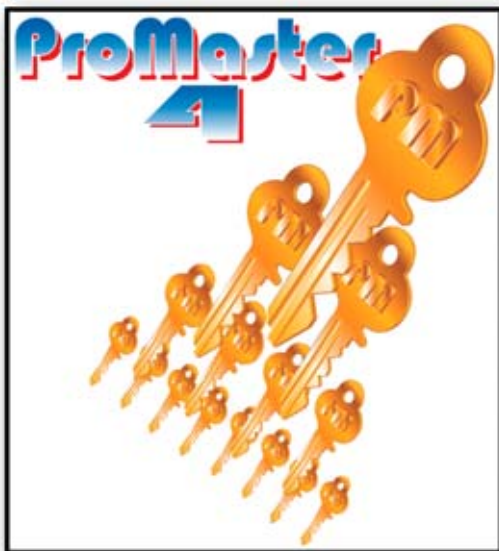
10

The plug has been pulled out revealing the long tailpiece attached to the rear of the plug. I removed the gray panel so you can see the two security bolts that secure the lock housing to the frame. There is just a round recess in the top of each bolt and some marks on the inside walls where some type of special tool was used to tighten them. The recess is not deep enough for a broken bolt extractor and they look like they would be difficult to remove.



11

The ignition plug contains wafer tumblers in all 8 spaces. Spaces 2, 4, 6 & 8 are on top and spaces 1, 3, 5 & 7 are on the bottom. The tailpiece interlocks with the rear of the plug. A tab at the bottom of the slot in the plug aligns with a notch on the tailpiece so it can only be fully inserted the correct way.



ProMaster 4

ProMaster 4 is without a doubt, the most comprehensive and easy to use master-key system management tool available anywhere in the world.

CLICK HERE TO LEARN MORE

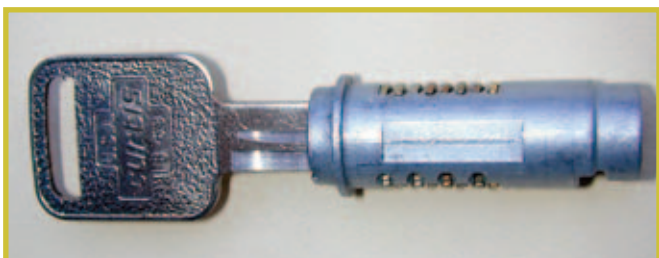
#PM - 5





12

The wafers from left to right are depths 66411131, which is code number 5703. The #1 depth wafer on the right is from an ASP A-19-104 keying kit and it worked perfectly. This lock uses the same type wafers as the other three locks.



13

A code cut Curtis B-69 (Ilco X180/B69) key is shown inserted into the ignition plug and it raises the tumblers to the shearline perfectly. The key was difficult to insert and extract until I filed off the sharp points between the cuts.

Note #1: The key code is on a tag on the key ring with the original keys. The owner's manual recommends that the owner write the key code number in the place provided inside the rear cover of the owner's manual. It is worth checking if the owner's manual is available.

Note #2: I believe the Honda 6-Depth Determinator will work in the gas, glove, and trunk locks to get the cuts in the first 7 spaces. I'm sure the grooves are too short for the ignition lock.

Note #3: Some Honda motorcycles in Europe use transponders. I was concerned that this bike might use a transponder but I rode it 130 miles with the B-69 in the ignition and the original key stored in the trunk. It is safe to say that it does not use a transponder. The locks and blank are available at Honda motorcycle dealers.

The part numbers and prices are as follows:

Lock Set: 35010-MCA-670 \$128.73

Ignition: 35100-MCA-670 \$128.73 (yes, same price)

Gas: 77234-MCA-003 \$46.50

Glove: 77233-MCA-003 \$48.16

Trunk: 81312-MCA-003 \$48.60

Blank: 35121-MCA-821 \$13.70

Codes: 5001-8442

Blank: Ilco X180; EZ B69; Jet B69-NP; Curtis B-69; Silca GM18R (not exact but will work)

Spacing: 1 = .108, 2 = .193, 3 = .278, 4 = .362, 5 = .447, 6 = .531, 7 = .616, 8 = .701

Depths: 1 = .307, 2 = .295, 3 = .282, 4 = .269, 5 = .257, 6 = .244

Card Number: CF74

ITL Number: 510

Curtis: HD-12 cam and HD-12AX carriage

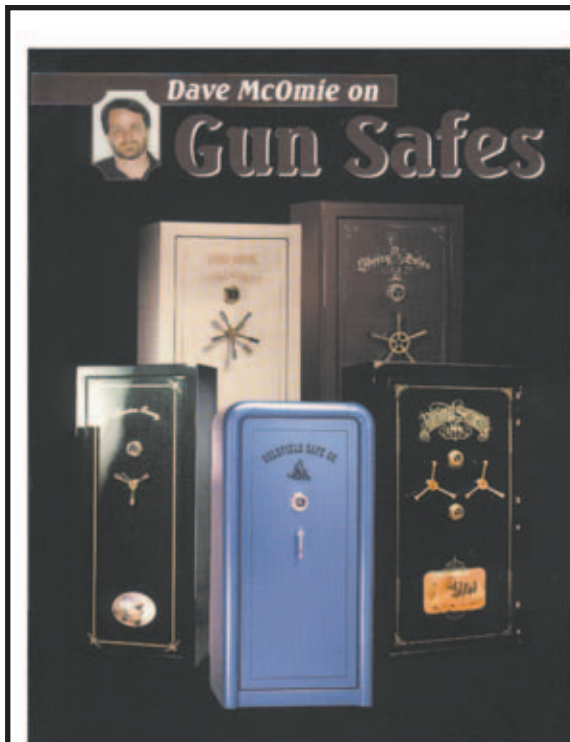
Tumbler Locations: 1 2 3 4 5 6 7 8

Ignition: x x x x x x x x

Gas: x x x x x x x x

Glove: x x x x x x x x

Trunk: x x x x x x x x **ITL**



Gun Safes

Need a drill point or
relocker drill point on
a gun safe?

CLICK HERE TO LEARN MORE



#GS - 1

KEY CODES

The HPC 1200CMB and 1200PCH code cards for this code series are between pages 118-121.

Yamaha A, B, C, D, E, & F3201- 79897

Manufacturer: Yamaha
Code Series: A, B, C, D, E, & F 32010 - 79897
Number of Cuts: 6
M.A.C.S.: 2
Key Gauged: Shoulder
Center of First Cut: .157
Cut to Cut Spacings: .098
Cut Depth Increments: .020
Notes: This code series covers letter designations: A, B, C, D, E & F. Only the key blank is different for each letter designation.

Spacings:

- 1 - .157
- 2 - .256
- 3 - .354
- 4 - .453
- 5 - .551
- 6 - .650

Depths:

- 1 = .295
- 2 = .276
- 3 = .256
- 4 = .236

HPC 1200CMB
Code Card: CMC80
Cutter: CW-1011
Jaw: A
Gauge From: Shoulder

HPC 1200PCH (Punch)
PCH Card: PCH80
Punch: PCH-1011
Jaw: A

Silca UnoCode
Card Number: 98

HPC CodeMax
DSD #: 450
Jaw: A
Cutter: CW-1011
Curtis No. 15 Code Cutter:
Cam-Set: DC-1
Carriage: SU-1B
Framon #2:
Cuts Start at: .157
Cut to Cut Spacing: .098
Block #: 5
Depth Increments: .020
Cutter: FC9040
Key Clamping Info: Use flip-up shoulder stop.
ITL 9000 & 950
Manufacturer ID: 496

Key Blanks for "A" Series:

CEA: YMH19S
Curtis: SU-8
DL: YH46
Errebi: YA22R
Fuki: M306D
Ilco: YH46
Ilco EZ: X120
Jet: YH46-NP
JMA: YAMA16
Kis: A223
Kraga: J351
Lotus: YM55
Orion: YM36L
RR: YMA44
R Clover: FM306
Silca: YH28R
Taylor: X120

Key Blanks for "B" Series:

CEA: YMH19
Curtis: SU-9
DL: YH47
Errebi: YA31R
Fuki: M305D
Ilco: YH47
Ilco EZ: X119
Jet: YH47-NP
JMA: YAMA18D
Kis: A222
Kraga: J349
Lotus: YM56
Orion: YM36
RR: YMA43

R Clover: FM305
Silca: YH28
Taylor: X119

Key Blanks for "C" Series:

Curtis: SU10
Ilco: YH48
Ilco EZ: X117
Jet: YH48-NP
Silca: YH29R
Taylor: X117

Key Blanks for "D" Series:

CEA: YMH20
Curtis: SU-11
DL: YH49
Errebi: YA23
Fuki: M387
Ilco: YH49
Ilco EZ: X118
Jet: YH49-NP
JMA: YAMA19D
Kraga: J353
Lotus: YM58
Orion: YM37
RR: YMA45
R Clover: FM309
Silca: YH29
Taylor: X118

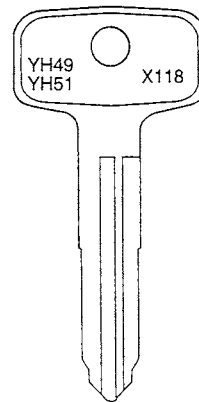
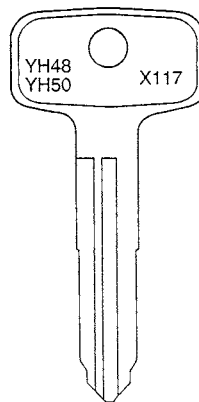
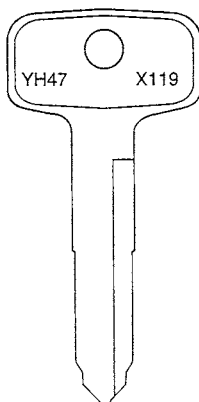
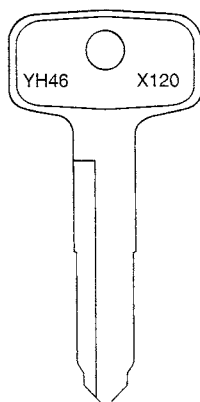
Key Blanks for "E" Series:

CEA: YMH21S
Curtis: SU-12
DL: YH50

Errebi: YA24R
Fuki: M308D
Ilco: YH50
Ilco EZ: YH50
Jet: YH50-NP
JMA: YAMA201
Kraga: J359
Lotus: YM59
Orion: YM38L
RR: YMA48
R Clover: FM308
Silca: YH30R

Key Blanks for "F" Series:

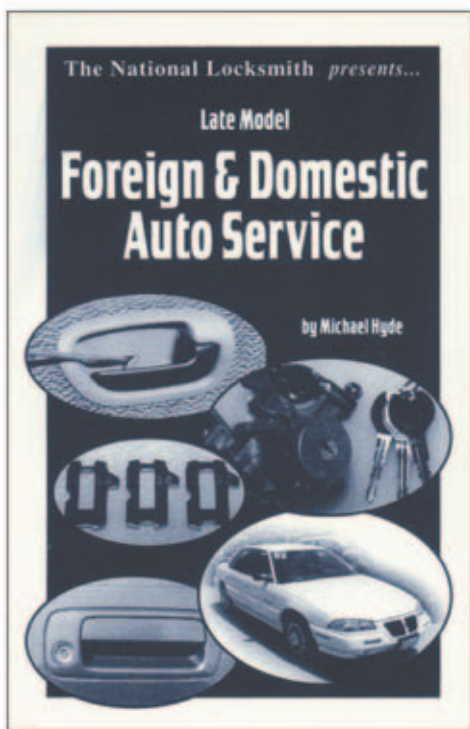
CEA: YMH21
Curtis: SU-13
DL: YH51
Errebi: YA24
Fuki: M307D
Ilco: YH51
Ilco EZ: YH51
Jet: YH51-NP
JMA: YAMA20D
Kraga: J357
Lotus: YM60
Orion: YM38
RR: YMA47
R Clover: FM307
Silca: YH30



| | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 32010 | 31222 | 32027 | 13222 | 32093 | 44222 | 32521 | 23322 | 32590 | 34322 | 32617 | 11422 |
| 32011 | 21222 | 32040 | 32222 | 32097 | 14222 | 32523 | 43322 | 32591 | 24322 | 32620 | 33422 |
| 32013 | 41222 | 32041 | 22222 | 32510 | 31322 | 32527 | 13322 | 32593 | 44322 | 32621 | 23422 |
| 32017 | 11222 | 32043 | 42222 | 32511 | 21322 | 32540 | 32322 | 32597 | 14322 | 32623 | 43422 |
| 32020 | 33222 | 32047 | 12222 | 32513 | 41322 | 32541 | 22322 | 32610 | 31422 | 32627 | 13422 |
| 32021 | 23222 | 32090 | 34222 | 32517 | 11322 | 32543 | 42322 | 32611 | 21422 | 32640 | 32422 |
| 32023 | 43222 | 32091 | 24222 | 32520 | 33322 | 32547 | 12322 | 32613 | 41422 | 32641 | 22422 |

Yamaha A, B, C, D, E, & F3201- 79897

| | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 32643 | 42422 | 34023 | 43242 | 34617 | 11442 | 34897 | 14142 | 38547 | 12332 | 38827 | 13132 |
| 32647 | 12422 | 34027 | 13242 | 34620 | 33442 | 38010 | 31232 | 38590 | 34332 | 38840 | 32132 |
| 32690 | 34422 | 34040 | 32242 | 34621 | 23442 | 38011 | 21232 | 38591 | 24332 | 38841 | 22132 |
| 32691 | 24422 | 34041 | 22242 | 34623 | 43442 | 38013 | 41232 | 38593 | 44332 | 38843 | 42132 |
| 32693 | 44422 | 34043 | 42242 | 34627 | 13442 | 38017 | 11232 | 38597 | 14332 | 38847 | 12132 |
| 32697 | 14422 | 34090 | 34242 | 34640 | 32442 | 38020 | 33232 | 38610 | 31432 | 38890 | 34132 |
| 32810 | 31122 | 34091 | 24242 | 34641 | 22442 | 38021 | 23232 | 38611 | 21432 | 38891 | 24132 |
| 32811 | 21122 | 34093 | 44242 | 34643 | 42442 | 38023 | 43232 | 38613 | 41432 | 38893 | 44132 |
| 32813 | 41122 | 34097 | 14242 | 34647 | 12442 | 38027 | 13232 | 38617 | 11432 | 38897 | 14132 |
| 32817 | 11122 | 34510 | 31342 | 34690 | 34442 | 38040 | 32232 | 38620 | 33432 | 39010 | 31212 |
| 32820 | 33122 | 34511 | 21342 | 34691 | 24442 | 38041 | 22232 | 38621 | 23432 | 39011 | 21212 |
| 32821 | 23122 | 34513 | 41342 | 34693 | 44442 | 38043 | 42232 | 38623 | 43432 | 39013 | 41212 |
| 32823 | 43122 | 34517 | 11342 | 34697 | 14442 | 38047 | 12232 | 38627 | 13432 | 39017 | 11212 |
| 32827 | 13122 | 34520 | 33342 | 34810 | 31142 | 38090 | 34232 | 38640 | 32432 | 39020 | 33212 |
| 32840 | 32122 | 34521 | 23342 | 34811 | 21142 | 38091 | 24232 | 38641 | 22432 | 39021 | 23212 |
| 32841 | 22122 | 34523 | 43342 | 34813 | 41142 | 38093 | 44232 | 38643 | 42432 | 39023 | 43212 |
| 32843 | 42122 | 34527 | 13342 | 34817 | 11142 | 38097 | 14232 | 38647 | 12432 | 39027 | 13212 |
| 32847 | 12122 | 34540 | 32342 | 34820 | 33142 | 38510 | 31332 | 38690 | 34432 | 39040 | 32212 |
| 32890 | 34122 | 34541 | 22342 | 34821 | 23142 | 38511 | 21332 | 38691 | 24432 | 39041 | 22212 |
| 32891 | 24122 | 34543 | 42342 | 34823 | 43142 | 38513 | 41332 | 38693 | 44432 | 39043 | 42212 |
| 32893 | 44122 | 34547 | 12342 | 34827 | 13142 | 38517 | 11332 | 38697 | 14432 | 39047 | 12212 |
| 32897 | 14122 | 34590 | 34342 | 34840 | 32142 | 38520 | 33332 | 38810 | 31132 | 39090 | 34212 |
| 34010 | 31242 | 34591 | 24342 | 34841 | 22142 | 38521 | 23332 | 38811 | 21132 | 39091 | 24212 |
| 34011 | 21242 | 34593 | 44342 | 34843 | 42142 | 38523 | 43332 | 38813 | 41132 | 39093 | 44212 |
| 34013 | 41242 | 34597 | 14342 | 34847 | 12142 | 38527 | 13332 | 38817 | 11132 | 39097 | 14212 |
| 34017 | 11242 | 34610 | 31442 | 34890 | 34142 | 38540 | 32332 | 38820 | 33132 | 39510 | 31312 |
| 34020 | 33242 | 34611 | 21442 | 34891 | 24142 | 38541 | 22332 | 38821 | 23132 | 39511 | 21312 |
| 34021 | 23242 | 34613 | 41442 | 34893 | 44142 | 38543 | 42332 | 38823 | 43132 | 39513 | 41312 |



Foreign & Domestic Auto Service

This book represents the best work of Automotive Locksmithing guru Michael Hyde, author of the famous AutoSmart.

CLICK HERE TO LEARN MORE

#FDAS - 1

Yamaha A, B, C, D, E, & F3201- 79897

| | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 39517 | 11312 | 39697 | 14412 | 52047 | 12224 | 52627 | 13424 | 54017 | 11244 | 54597 | 14344 |
| 39520 | 33312 | 39810 | 31112 | 52090 | 34224 | 52640 | 32424 | 54020 | 33244 | 54610 | 31444 |
| 39521 | 23312 | 39811 | 21112 | 52091 | 24224 | 52641 | 22424 | 54021 | 23244 | 54611 | 21444 |
| 39523 | 43312 | 39813 | 41112 | 52093 | 44224 | 52643 | 42424 | 54023 | 43244 | 54613 | 41444 |
| 39527 | 13312 | 39817 | 11112 | 52097 | 14224 | 52647 | 12424 | 54027 | 13244 | 54617 | 11444 |
| 39540 | 32312 | 39820 | 33112 | 52510 | 31324 | 52690 | 34424 | 54040 | 32244 | 54620 | 33444 |
| 39541 | 22312 | 39821 | 23112 | 52511 | 21324 | 52691 | 24424 | 54041 | 22244 | 54621 | 23444 |
| 39543 | 42312 | 39823 | 43112 | 52513 | 41324 | 52693 | 44424 | 54043 | 42244 | 54623 | 43444 |
| 39547 | 12312 | 39827 | 13112 | 52517 | 11324 | 52697 | 14424 | 54047 | 12244 | 54627 | 13444 |
| 39590 | 34312 | 39840 | 32112 | 52520 | 33324 | 52810 | 31124 | 54090 | 34244 | 54640 | 32444 |
| 39591 | 24312 | 39841 | 22112 | 52521 | 23324 | 52811 | 21124 | 54091 | 24244 | 54641 | 22444 |
| 39593 | 44312 | 39843 | 42112 | 52523 | 43324 | 52813 | 41124 | 54093 | 44244 | 54643 | 42444 |
| 39597 | 14312 | 39847 | 12112 | 52527 | 13324 | 52817 | 11124 | 54097 | 14244 | 54647 | 12444 |
| 39610 | 31412 | 39890 | 34112 | 52540 | 32324 | 52820 | 33124 | 54510 | 31344 | 54690 | 34444 |
| 39611 | 21412 | 39891 | 24112 | 52541 | 22324 | 52821 | 23124 | 54511 | 21344 | 54691 | 24444 |
| 39613 | 41412 | 39893 | 44112 | 52543 | 42324 | 52823 | 43124 | 54513 | 41344 | 54693 | 44444 |
| 39617 | 11412 | 39897 | 14112 | 52547 | 12324 | 52827 | 13124 | 54517 | 11344 | 54697 | 14444 |
| 39620 | 33412 | 52010 | 31224 | 52590 | 34324 | 52840 | 32124 | 54520 | 33344 | 54810 | 31144 |
| 39621 | 23412 | 52011 | 21224 | 52591 | 24324 | 52841 | 22124 | 54521 | 23344 | 54811 | 21144 |
| 39623 | 43412 | 52013 | 41224 | 52593 | 44324 | 52843 | 42124 | 54523 | 43344 | 54813 | 41144 |
| 39627 | 13412 | 52017 | 11224 | 52597 | 14324 | 52847 | 12124 | 54527 | 13344 | 54817 | 11144 |
| 39640 | 32412 | 52020 | 33224 | 52610 | 31424 | 52890 | 34124 | 54540 | 32344 | 54820 | 33144 |
| 39641 | 22412 | 52021 | 23224 | 52611 | 21424 | 52891 | 24124 | 54541 | 22344 | 54821 | 23144 |
| 39643 | 42412 | 52023 | 43224 | 52613 | 41424 | 52893 | 44124 | 54543 | 42344 | 54823 | 43144 |
| 39647 | 12412 | 52027 | 13224 | 52617 | 11424 | 52897 | 14124 | 54547 | 12344 | 54827 | 13144 |
| 39690 | 34412 | 52040 | 32224 | 52620 | 33424 | 54010 | 31244 | 54590 | 34344 | 54840 | 32144 |
| 39691 | 24412 | 52041 | 22224 | 52621 | 23424 | 54011 | 21244 | 54591 | 24344 | 54841 | 22144 |
| 39693 | 44412 | 52043 | 42224 | 52623 | 43424 | 54013 | 41244 | 54593 | 44344 | 54843 | 42144 |

2002 AutoSmart™



Major changes, additions and revisions to the AutoSmart Book™ have been made, and the 2002 AutoSmart™ is now available!



[CLICK HERE TO LEARN MORE](#)

How To Open Cars



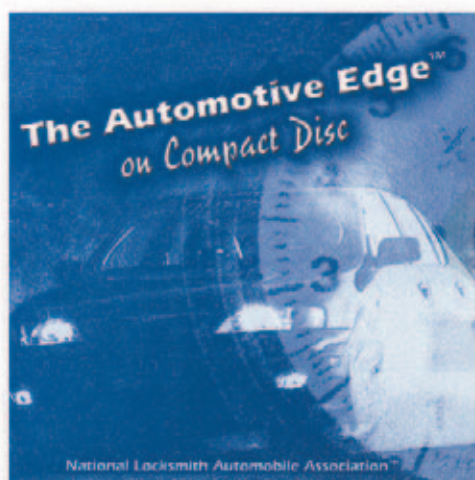
CLICK HERE TO LEARN MORE



Yamaha A, B, C, D, E, & F3201- 79897

| | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|
| 54847 | 12144 | 58527 | 13334 | 58817 | 11134 | 59097 | 14214 |
| 54890 | 34144 | 58540 | 32334 | 58820 | 33134 | 59510 | 31314 |
| 54891 | 24144 | 58541 | 22334 | 58821 | 23134 | 59511 | 21314 |
| 54893 | 44144 | 58543 | 42334 | 58823 | 43134 | 59513 | 41314 |
| 54897 | 14144 | 58547 | 12334 | 58827 | 13134 | 59517 | 11314 |
| 58010 | 31234 | 58590 | 34334 | 58840 | 32134 | 59520 | 33314 |
| 58011 | 21234 | 58591 | 24334 | 58841 | 22134 | 59521 | 23314 |
| 58013 | 41234 | 58593 | 44334 | 58843 | 42134 | 59523 | 43314 |
| 58017 | 11234 | 58597 | 14334 | 58847 | 12134 | 59527 | 13314 |
| 58020 | 33234 | 58610 | 31434 | 58890 | 34134 | 59540 | 32314 |
| 58021 | 23234 | 58611 | 21434 | 58891 | 24134 | 59541 | 22314 |
| 58023 | 43234 | 58613 | 41434 | 58893 | 44134 | 59543 | 42314 |
| 58027 | 13234 | 58617 | 11434 | 58897 | 14134 | 59547 | 12314 |
| 58040 | 32234 | 58620 | 33434 | 59010 | 31214 | 59590 | 34314 |
| 58041 | 22234 | 58621 | 23434 | 59011 | 21214 | 59591 | 24314 |
| 58043 | 42234 | 58623 | 43434 | 59013 | 41214 | 59593 | 44314 |
| 58047 | 12234 | 58627 | 13434 | 59017 | 11214 | 59597 | 14314 |
| 58090 | 34234 | 58640 | 32434 | 59020 | 33214 | 59610 | 31414 |
| 58091 | 24234 | 58641 | 22434 | 59021 | 23214 | 59611 | 21414 |
| 58093 | 44234 | 58643 | 42434 | 59023 | 43214 | 59613 | 41414 |
| 58097 | 14234 | 58647 | 12434 | 59027 | 13214 | 59617 | 11414 |
| 58510 | 31334 | 58690 | 34434 | 59040 | 32214 | 59620 | 33414 |
| 58511 | 21334 | 58691 | 24434 | 59041 | 22214 | 59621 | 23414 |
| 58513 | 41334 | 58693 | 44434 | 59043 | 42214 | 59623 | 43414 |
| 58517 | 11334 | 58697 | 14434 | 59047 | 12214 | 59627 | 13414 |
| 58520 | 33334 | 58810 | 31134 | 59090 | 34214 | 59640 | 32414 |
| 58521 | 23334 | 58811 | 21134 | 59091 | 24214 | 59641 | 22414 |
| 58523 | 43334 | 58813 | 41134 | 59093 | 44214 | 59643 | 42414 |

AutoEdge



This CD contains over
1,000 pages of automotive
locksmith service.

CLICK HERE TO LEARN MORE

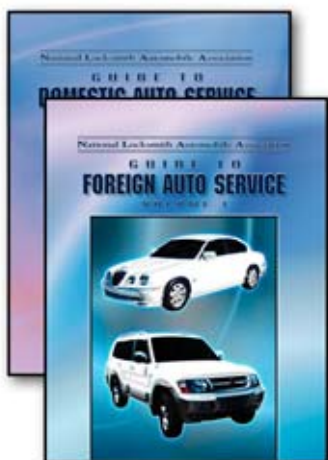
#AE - CD

Yamaha A, B, C, D, E, & F3201- 79897

| | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 59647 | 12414 | 62027 | 13223 | 62617 | 11423 | 62897 | 14123 | 64547 | 12343 | 64827 | 13143 |
| 59690 | 34414 | 62040 | 32223 | 62620 | 33423 | 64010 | 31243 | 64590 | 34343 | 64840 | 32143 |
| 59691 | 24414 | 62041 | 22223 | 62621 | 23423 | 64011 | 21243 | 64591 | 24343 | 64841 | 22143 |
| 59693 | 44414 | 62043 | 42223 | 62623 | 43423 | 64013 | 41243 | 64593 | 44343 | 64843 | 42143 |
| 59697 | 14414 | 62047 | 12223 | 62627 | 13423 | 64017 | 11243 | 64597 | 14343 | 64847 | 12143 |
| 59810 | 31114 | 62090 | 34223 | 62640 | 32423 | 64020 | 33243 | 64610 | 31443 | 64890 | 34143 |
| 59811 | 21114 | 62091 | 24223 | 62641 | 22423 | 64021 | 23243 | 64611 | 21443 | 64891 | 24143 |
| 59813 | 41114 | 62093 | 44223 | 62643 | 42423 | 64023 | 43243 | 64613 | 41443 | 64893 | 44143 |
| 59817 | 11114 | 62097 | 14223 | 62647 | 12423 | 64027 | 13243 | 64617 | 11443 | 64897 | 14143 |
| 59820 | 33114 | 62510 | 31323 | 62690 | 34423 | 64040 | 32243 | 64620 | 33443 | 68010 | 31233 |
| 59821 | 23114 | 62511 | 21323 | 62691 | 24423 | 64041 | 22243 | 64621 | 23443 | 68011 | 21233 |
| 59823 | 43114 | 62513 | 41323 | 62693 | 44423 | 64043 | 42243 | 64623 | 43443 | 68013 | 41233 |
| 59827 | 13114 | 62517 | 11323 | 62697 | 14423 | 64047 | 12243 | 64627 | 13443 | 68017 | 11233 |
| 59840 | 32114 | 62520 | 33323 | 62810 | 31123 | 64090 | 34243 | 64640 | 32443 | 68020 | 33233 |
| 59841 | 22114 | 62521 | 23323 | 62811 | 21123 | 64091 | 24243 | 64641 | 22443 | 68021 | 23233 |
| 59843 | 42114 | 62523 | 43323 | 62813 | 41123 | 64093 | 44243 | 64643 | 42443 | 68023 | 43233 |
| 59847 | 12114 | 62527 | 13323 | 62817 | 11123 | 64097 | 14243 | 64647 | 12443 | 68027 | 13233 |
| 59890 | 34114 | 62540 | 32323 | 62820 | 33123 | 64510 | 31343 | 64690 | 34443 | 68040 | 32233 |
| 59891 | 24114 | 62541 | 22323 | 62821 | 23123 | 64511 | 21343 | 64691 | 24443 | 68041 | 22233 |
| 59893 | 44114 | 62543 | 42323 | 62823 | 43123 | 64513 | 41343 | 64693 | 44443 | 68043 | 42233 |
| 59897 | 14114 | 62547 | 12323 | 62827 | 13123 | 64517 | 11343 | 64697 | 14443 | 68047 | 12233 |
| 62010 | 31223 | 62590 | 34323 | 62840 | 32123 | 64520 | 33343 | 64810 | 31143 | 68090 | 34233 |
| 62011 | 21223 | 62591 | 24323 | 62841 | 22123 | 64521 | 23343 | 64811 | 21143 | 68091 | 24233 |
| 62013 | 41223 | 62593 | 44323 | 62843 | 42123 | 64523 | 43343 | 64813 | 41143 | 68093 | 44233 |
| 62017 | 11223 | 62597 | 14323 | 62847 | 12123 | 64527 | 13343 | 64817 | 11143 | 68097 | 14233 |
| 62020 | 33223 | 62610 | 31423 | 62890 | 34123 | 64540 | 32343 | 64820 | 33143 | 68510 | 31333 |
| 62021 | 23223 | 62611 | 21423 | 62891 | 24123 | 64541 | 22343 | 64821 | 23143 | 68511 | 21333 |
| 62023 | 43223 | 62613 | 41423 | 62893 | 44123 | 64543 | 42343 | 64823 | 43143 | 68513 | 41333 |

NLAA Guide to Domestic Auto Service

NLAA Guide to Foreign Auto Service



You get car opening, lock removal and service, column service, key and code series information, and many views of the doors, panels and locks.

[CLICK HERE TO LEARN MORE](#)



Yamaha

A, B, C, D, E, & F3201- 79897

| | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 68517 | 11333 | 69511 | 21313 | 72097 | 14221 | 74091 | 24241 | 78047 | 12231 | 79041 | 22211 |
| 68520 | 33333 | 69513 | 41313 | 72510 | 31321 | 74093 | 44241 | 78090 | 34231 | 79043 | 42211 |
| 68521 | 23333 | 69517 | 11313 | 72511 | 21321 | 74097 | 14241 | 78091 | 24231 | 79047 | 12211 |
| 68523 | 43333 | 69520 | 33313 | 72513 | 41321 | 74510 | 31341 | 78093 | 44231 | 79090 | 34211 |
| 68527 | 13333 | 69521 | 23313 | 72517 | 11321 | 74511 | 21341 | 78097 | 14231 | 79091 | 24211 |
| 68540 | 32333 | 69523 | 43313 | 72520 | 33321 | 74513 | 41341 | 78510 | 31331 | 79093 | 44211 |
| 68541 | 22333 | 69527 | 13313 | 72521 | 23321 | 74517 | 11341 | 78511 | 21331 | 79097 | 14211 |
| 68543 | 42333 | 69540 | 32313 | 72523 | 43321 | 74520 | 33341 | 78513 | 41331 | 79510 | 31311 |
| 68547 | 12333 | 69541 | 22313 | 72527 | 13321 | 74521 | 23341 | 78517 | 11331 | 79511 | 21311 |
| 68590 | 34333 | 69543 | 42313 | 72540 | 32321 | 74523 | 43341 | 78520 | 33331 | 79513 | 41311 |
| 68591 | 24333 | 69547 | 12313 | 72541 | 22321 | 74527 | 13341 | 78521 | 23331 | 79517 | 11311 |
| 68593 | 44333 | 69590 | 34313 | 72543 | 42321 | 74540 | 32341 | 78523 | 43331 | 79520 | 33311 |
| 68597 | 14333 | 69591 | 24313 | 72547 | 12321 | 74541 | 22341 | 78527 | 13331 | 79521 | 23311 |
| 68610 | 31433 | 69593 | 44313 | 72590 | 34321 | 74543 | 42341 | 78540 | 32331 | 79523 | 43311 |
| 68611 | 21433 | 69597 | 14313 | 72591 | 24321 | 74547 | 12341 | 78541 | 22331 | 79527 | 13311 |
| 68613 | 41433 | 69610 | 31413 | 72593 | 44321 | 74590 | 34341 | 78543 | 42331 | 79540 | 32311 |
| 68617 | 11433 | 69611 | 21413 | 72597 | 14321 | 74591 | 24341 | 78547 | 12331 | 79541 | 22311 |
| 68620 | 33433 | 69613 | 41413 | 72610 | 31421 | 74593 | 44341 | 78590 | 34331 | 79543 | 42311 |
| 68621 | 23433 | 69617 | 11413 | 72611 | 21421 | 74597 | 14341 | 78591 | 24331 | 79547 | 12311 |
| 68623 | 43433 | 69620 | 33413 | 72613 | 41421 | 74610 | 31441 | 78593 | 44331 | 79590 | 34311 |
| 68627 | 13433 | 69621 | 23413 | 72617 | 11421 | 74611 | 21441 | 78594 | 14331 | 79591 | 24311 |
| 68640 | 32433 | 69623 | 43413 | 72620 | 33421 | 74613 | 41441 | 78610 | 31431 | 79593 | 44311 |
| 68641 | 22433 | 69627 | 13413 | 72621 | 23421 | 74617 | 11441 | 78611 | 21431 | 79597 | 14311 |
| 68643 | 42433 | 69640 | 32413 | 72623 | 43421 | 74620 | 33441 | 78613 | 41431 | 79610 | 31411 |
| 68647 | 12433 | 69641 | 22413 | 72627 | 13421 | 74621 | 23441 | 78617 | 11431 | 79611 | 21411 |
| 68690 | 34433 | 69643 | 42413 | 72640 | 32421 | 74623 | 43441 | 78620 | 33431 | 79613 | 41411 |
| 68691 | 24433 | 69647 | 12413 | 72641 | 22421 | 74627 | 13441 | 78621 | 23431 | 79617 | 11411 |
| 68693 | 44433 | 69690 | 34413 | 72643 | 42421 | 74640 | 32441 | 78623 | 43431 | 79620 | 33411 |
| 68697 | 14433 | 69691 | 24413 | 72647 | 12421 | 74641 | 22441 | 78627 | 13431 | 79621 | 23411 |
| 68810 | 31133 | 69693 | 44413 | 72690 | 34421 | 74643 | 42441 | 78640 | 32431 | 79623 | 43411 |
| 68811 | 21133 | 69697 | 14413 | 72691 | 24421 | 74647 | 12441 | 78641 | 22431 | 79627 | 13411 |
| 68813 | 41133 | 69810 | 31113 | 72693 | 44421 | 74690 | 34441 | 78643 | 42431 | 79640 | 32411 |
| 68817 | 11133 | 69811 | 21113 | 72697 | 14421 | 74691 | 24441 | 78647 | 12431 | 79641 | 22411 |
| 68820 | 33133 | 69813 | 41113 | 72810 | 31121 | 74693 | 44441 | 78690 | 34431 | 79643 | 42411 |
| 68821 | 23133 | 69817 | 11113 | 72811 | 21121 | 74697 | 14441 | 78691 | 24431 | 79647 | 12411 |
| 68823 | 43133 | 69820 | 33113 | 72813 | 41121 | 74810 | 31141 | 78693 | 44431 | 79690 | 34411 |
| 68827 | 13133 | 69821 | 23113 | 72817 | 11121 | 74811 | 21141 | 78697 | 14431 | 79691 | 24411 |
| 68840 | 32133 | 69823 | 43113 | 72820 | 33121 | 74813 | 41141 | 78810 | 31131 | 79693 | 44411 |
| 68841 | 22133 | 69827 | 13113 | 72821 | 23121 | 74817 | 11141 | 78811 | 21131 | 79697 | 14411 |
| 68843 | 42133 | 69840 | 32113 | 72823 | 43121 | 74820 | 33141 | 78813 | 41131 | 79810 | 31111 |
| 68847 | 12133 | 69841 | 22113 | 72827 | 13121 | 74821 | 23141 | 78817 | 11131 | 79811 | 21111 |
| 68890 | 34133 | 69843 | 42113 | 72840 | 32121 | 74823 | 43141 | 78820 | 33131 | 79813 | 41111 |
| 68891 | 24133 | 69847 | 12113 | 72841 | 22121 | 74827 | 13141 | 78821 | 23131 | 79817 | 11111 |
| 68893 | 44133 | 69890 | 34113 | 72843 | 42121 | 74840 | 32141 | 78823 | 43131 | 79820 | 33111 |
| 68897 | 14133 | 69891 | 24113 | 72847 | 12121 | 74841 | 22141 | 78827 | 13131 | 79821 | 23111 |
| 69010 | 31213 | 69893 | 44113 | 72890 | 34121 | 74843 | 42141 | 78840 | 32131 | 79823 | 43111 |
| 69011 | 21213 | 69897 | 14113 | 72891 | 24121 | 74847 | 12141 | 78841 | 22131 | 79827 | 13111 |
| 69013 | 41213 | 72010 | 31221 | 72893 | 44121 | 74890 | 34141 | 78843 | 42131 | 79840 | 32111 |
| 69017 | 11213 | 72011 | 21221 | 72897 | 14121 | 74891 | 24141 | 78847 | 12131 | 79841 | 22111 |
| 69020 | 33213 | 72013 | 41221 | 74010 | 31241 | 74893 | 44141 | 78890 | 34131 | 79843 | 42111 |
| 69021 | 23213 | 72017 | 11221 | 74011 | 21241 | 74897 | 14141 | 78891 | 24131 | 79847 | 12111 |
| 69023 | 43213 | 72020 | 33221 | 74013 | 41241 | 78010 | 31231 | 78893 | 44131 | 79890 | 34111 |
| 69027 | 13213 | 72021 | 23221 | 74017 | 11241 | 78011 | 21231 | 78897 | 14131 | 79891 | 24111 |
| 69040 | 32213 | 72023 | 43221 | 74020 | 33241 | 78013 | 41231 | 79010 | 31211 | 79893 | 44111 |
| 69041 | 22213 | 72027 | 13221 | 74021 | 23241 | 78017 | 11231 | 79011 | 21211 | 79897 | 14111 |
| 69043 | 42213 | 72040 | 32221 | 74023 | 43241 | 78020 | 33231 | 79013 | 41211 | | |
| 69047 | 12213 | 72041 | 22221 | 74027 | 13241 | 78021 | 23231 | 79017 | 11211 | | |
| 69090 | 34213 | 72043 | 42221 | 74040 | 32241 | 78023 | 43231 | 79020 | 33211 | | |
| 69091 | 24213 | 72047 | 12221 | 74041 | 22241 | 78027 | 13231 | 79021 | 23211 | | |
| 69093 | 44213 | 72090 | 34221 | 74043 | 42241 | 78040 | 32231 | 79023 | 43211 | | |
| 69097 | 14213 | 72091 | 24221 | 74047 | 12241 | 78041 | 22231 | 79027 | 13211 | | |
| 69510 | 31313 | 72093 | 44221 | 74090 | 34241 | 78043 | 42231 | 79040 | 32211 | | |

IRL

TheNationalLocksmith.com

Technical forums, chat, online store, plus
visit our sponsors...

WEB REVIEW

The National Locksmith

<http://www.thenationallocksmith.com/>

TheNationalLocksmith.com is a site packed with value for the locksmith professional. As a free site to the user, it is especially worthwhile. Several main components offer differing advantages to the locksmith.

The Online Store makes available most all of the products, books and software published by The National Locksmith magazine. The Public section offers information to the consumer about the

differences between "locksmith locks" and "home center locks." And the Advertisers area shows companies how they can market into our arena.

Most useful to the professional is the Locksmith area. In this section, you will find online car opening videos which you can view on screen. And most important of all are the Locksmith Forums. Here you can communicate with other locksmiths all over the globe, ask questions, get help when you need it, and offer advice to your fellow locksmiths.



A&B Safe Corporation



www.a-bsafecorp.com

Abloy® DiskLock Pro



info@abloy.ca

Adesco Safe Manufacturing Co.



www.adesco.com

Aiphone



www.aiphone.com

Dynalock Corp.



www.dynalock.com

Framon Manufacturing Co.



www.framon.com

Herbert L. Flake Company



www.hflflake.com

HPC, Inc.



www.hpcworld.com

Indiana Cash Drawer Co.



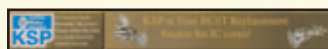
www.icdpos.com

International Locking Devices, Ltd.



www.gatelock.com

KSP



www.iccore.com

KustomKey



www.kustomkey.com

MAG Security



www.magsecurity.com

Major Manufacturing



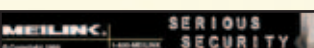
www.majormfg.com

McDonald DASH Locksmith Supply



www.mcdonalddash.com

Meilink



www.meilinksafe.com

Monaco Lock



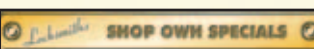
www.monacolock.com

National Auto Lock Service, Inc.



www.laserkey.com

Omaha Wholesale Hardware



www.omahawh.com

ROFU International Corp.



www.rofu.com

SecuraKey



www.securakey.com

Security Resources, Inc.



www.techtrainproductions.com

ShatterGard Security Window Film



www.shattergard.com

Sieveling Products Co.



www.sievelingprodco.com

Tech-Train Productions



www.techtrainproductions.com

TekTone



www.tektone.net

TNL

Manufacturers and distributors... join the high profile locksmith web site and you'll be featured here!
Call Jeff Adair (ext. 15) or Debbie Schertzing (ext. 16) for details. (630) 837-2044

**Taking
Industry Products
for a**

TEST DRIVE!

Thirty years ago, it was easy to replace a tubular deadbolt in a wood door. The crossbore was 1-1/2" or 2-3/8" and the edge bore was always 1". 2-3/8" was the usual backset for the deadbolt, unless a 5" backset was required to match the backset of the lockset. This was a fashion statement of the 1960's, which was better left to history. A 2-3/4" backset would only be seen on commercial installations.

But this is the new millennium. There is no practical real standard for backsets, nor for the edge bore on the side of the door. A steel door usually has 2-3/4" backset prepped at the factory, but not always. The locking hardware, both deadbolts and locksets, don't always require a 1" crossbore anymore. While some residential grade hardware still spec a 1" crossbore, a very large percentage of today's hardware requires only a 7/8" crossbore.

Installing 7/8" latches and deadbolts into 1" holes can cause problems. The latch can wiggle in the hole and cause a disconnected latch or bolt, or simply create premature wear of the lock assembly hardware. To remedy this, plastic or metal adapters are oftentimes installed around the latch, or more simply, when the door is being manufactured or a technician is installing the lock, the door is drilled with a 7/8" crossbore.

While hardware that uses a 7/8" crossbore may be cost effective, it may not stand the test of time and may not be the best choice for security.

When the old or original hardware expires and the homeowner

The Dickey Bit

by Richard's Locksmith Service

wishes to upgrade, the installer of the new upgraded hardware may find holes in the wood or wood centered steel door, is just a bit too small. The installer could use a file or a ream to enlarge the hole, but runs the risk of making an oval hole instead of a round hole, or cutting the edge bore out of alignment with the lock body.

The installer may also take the time to have a drill fixture mounted on the side of the door, which would make the modification perfect - if the fixture is mounted on the door perfectly. The installer might take the next bigger sized bit against the door, gauge by eye, and hope the edge of the door won't be eaten up when trying to enlarge the hole.

PRODUCT:

If you deem yourself a professional you will want professional results. If you're in business for yourself or if you hire others to do the work for you, you will want a tool that will do the job in a short amount of time and with little chance for error. This is where the Dickey-Bit comes in.

DESIGN:

Simply, the Dickey-Bit is a modified spade bit. It is not designed to be used to create new holes in wood or wood edge doors. It is designed to enlarge existing holes by 1/8". The Dickey-Bit® is designed to be self-aligning and makes a perfect 1" hole. It makes a perfect enlargement in about as much time as it takes to chuck the bit into a drill.

SIZE AVAILABILITY:

The largest and most common size used is the 1" Dickey-Bit, which



enlarges a 7/8" hole to a 1" hole. Other sizes are available and sold either alone or as a set. A complete set consists of the sizes 3/8", 1/2", 5/8", 3/4", 7/8" and 1".


COST:

The cost for the complete set is \$39.95 plus shipping and handling. The 1" bit is currently available for \$12.95 plus \$1.50 shipping and handling.

Remember, if it doesn't fit, use a Dickey-Bit®.

CONCLUSION:

Can a 7/8" hole be enlarged to 1" without the use of a special drill bit? Sure it can. But if you want to do it quickly and perfectly the first time, a Dickey Bit added to your collection of specialty tools that work, is well worth it. Just as an aggravation reducer, it is well worth its price.

To order the Dickey-Bit®, send a check or money order to: Richard's Locksmith Service, 2524 East Gregory Road, Central Point, Oregon 97502. Phone: 541-826-7283; E-mail: richardslocksmith@locksmith.com. Circle 202 on Rapid Reply. 

IN SUMMARY:

DESCRIPTION: The Dickey Bit is a hole enlarger.

PRICE: \$12.95

COMMENTS: The bit is self-aligning and makes a perfect 1" hole.

TEST DRIVE RESULTS: The Dickey Bit is well worth it.